

23-1648

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UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

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SHAMROCK BUILDING MATERIALS, INC.,

Plaintiff-Appellant

v.

UNITED STATES,

Defendant-Appellee

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Appeal from the United States Court of International Trade in Case No.  
1:20-cv-00074-TCS, Judge Timothy C. Stanceu.

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BRIEF OF PLAINTIFF-APPELLANT SHAMROCK BUILDING  
MATERIALS, INC.

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June 5, 2023

FORM 9. Certificate of Interest

Form 9 (p. 1)  
March 2023

**UNITED STATES COURT OF APPEALS  
FOR THE FEDERAL CIRCUIT**

**CERTIFICATE OF INTEREST**

**Case Number** 23-1648

**Short Case Caption** Shamrock Building Materials, Inc. v. US

**Filing Party/Entity** Shamrock Building Materials, Inc.

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Form 9 (p. 2)  
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## **TABLE OF CONTENTS**

CERTIFICATE OF INTEREST .....	1
I. INTRODUCTION .....	7
II. STATEMENT OF RELATED CASES .....	10
III. JURISDICTIONAL STATEMENT .....	10
IV. STATEMENT OF THE ISSUES .....	11
V. STATEMENT OF THE CASE .....	11
VI. SUMMARY OF ARGUMENT .....	18
VII. STANDARD OF REVIEW .....	19
VIII. ARGUMENT.....	20
A. The Subject Conduit Is <i>Prima Facie</i> Classifiable Pursuant To the Plain Language of Heading 8547 Because It Is “Lined With Insulating Material.” .....	20
1. The Undisputed Facts Establish that the Subject Conduit is Lined With Insulating Material .....	21
2. Lexicographic Sources, Statutory Context, Customs Rulings And Case Law Confirm That The Subject Conduit Falls Squarely Within The Plain Language Of The Heading.....	25
3. The CIT’s Finding That The Subject Conduit Did Not Meet The Unambiguous Language Of The Statute Is Erroneous.....	31
B. The CIT Misunderstood The Types Of Electrical Conduit Sold In Commerce.....	37
1. The CIT Deviated From The Plain Meaning Of The Statute With An Unnecessary And Erroneous Interpretation Of The Explanatory Note .....	38
2. The Undisputed Facts Demonstrate That The Epoxy Coating Serves A Significant Electrically Insulating Function.....	44
C. The CIT Improperly Declined To Afford Any Deference To Prior Relevant Customs Rulings .....	56
D. While It Is Clear That the Epoxy Coating Is Electrically Insulating, the Subject Conduit Is Classified As “Lined With an Insulating Material” Because It Also Serves Other Insulating Functions .....	61
IX. CONCLUSION AND STATEMENT OF RELIEF SOUGHT.....	63
ADDENDUM .....	64
CERTIFICATE OF COMPLIANCE.....	89
CERTIFICATE OF SERVICE .....	90

## **TABLE OF AUTHORITIES**

	<b>Page(s)</b>
<b>Cases</b>	
<i>Apple, Inc. v. United States</i> , 964 F.3d 1087 (Fed. Cir. 2020) .....	40, 44
<i>Arthur J. Humphreys, Inc. v. United States</i> , 973 F.2d 1554 (Fed. Cir. 1992) .....	51
<i>B.F. Goodrich Co. v. United States</i> , 38 Cust. Ct. 72 (1957).....	26, 62, 63
<i>Celotex Corp. v. Catrett</i> , 477 U.S. 317, 106 S.Ct. 2548 (1986).....	20
<i>Connecticut Nat’l Bank v. Germain</i> , 503 U.S. 249 (1992).....	21, 22
<i>Devon Tape Corp. v. United States</i> , 57 Cust. Ct. 507 (1966).....	31
<i>Inter-Maritime Forwarding Co. v. United States</i> , 70 Cust. Ct. 133 (1973).....	31, 32
<i>Jones v. Brown</i> , 41 F.3d 634 (Fed. Cir. 1994) .....	21
<i>Kahrs Int’l Inc. v. United States</i> , 713 F.3d 640 (Fed. Cir. 2013) .....	20, 57, 58
<i>Michael Simon Design, Inc. v United States</i> , 501 F.3d 1303 (Fed. Cir. 2007) .....	20, 43
<i>Naftone, Inc. v. United States</i> , 67 Cust. Ct. 341 (1971).....	30, 31
<i>Processed Plastics Co. v. United States</i> , 473 F.3d 1164 (Fed. Cir. 2006) .....	20, 28, 42

<i>Reser’s Fine Foods, Inc. v. United States</i> , 27 CIT 1389 (2003) .....	30
<i>Rollerblade, Inc. v. United States</i> , 116 F. Supp. 2d 1247 (2000) .....	30
<i>Schlumberger Tech. Corp. v. United States</i> , 845 F.3d 1158 (Fed. Cir. 2017) .....	20
<i>Shamrock Building Materials, Inc. v. United States</i> , 619 F. Supp. 3d 1337 (Ct. Int’l Trade 2023) .....	11, 18
<i>Sigma-Tau HealthScience, Inc. v. United States</i> , 838 F.3d 1272 (Fed. Cir. 2016) .....	28, 35, 41, 44
<i>Skidmore v. Swift &amp; Co.</i> , 323 U.S. 134 (1944).....	20, 57, 60, 62
<i>United States v. Mead Corp.</i> , 533 U.S. 218 (2001).....	57, 59, 62
<i>Well Luck Co. v. United States</i> , 887 F.3d 1106 (Fed. Cir. 2018) .....	34
<i>Wilton Indus. v. United States</i> , 741 F.3d 1263 (Fed. Cir. 2013) .....	22, 34

## **Statutes**

19 U.S.C. § 1862.....	18
28 U.S.C. § 1295(a)(5).....	11
28 U.S. C. § 1581(a) .....	11
HTSUS Heading 7306 .....	<i>passim</i>
HTSUS Heading 8547 .....	<i>passim</i>

## **I. INTRODUCTION**

This case concerns the proper classification of electrical metallic tubing (“EMT”) finished conduit and intermediate metal conduit (“IMC”) produced by Conduit S.A. de C.V. d/b/a RYMCO (“RYMCO”) that Plaintiff-Appellant Shamrock Building Materials, Inc. imported from Mexico (collectively, “subject conduit”). Electrical conduit is steel tubing that houses electrical wiring in buildings and other structures. In the electrical industry, electrical equipment made of base metal, such as the subject conduit at issue, may be lined with either anti-corrosion coatings, such as zinc (*i.e.*, “galvanized”), or lined with other materials, typically organic materials, that have insulating properties. These other materials include “electrically insulating varnishes,” and serve a variety of insulating purposes.

This dichotomy is reflected in the Harmonized Tariff Schedule of the United States (“HTSUS”). The HTSUS classifies “electrical conduit tubing of base metal... lined with insulating material” in Heading 8547 and classifies “other” pipes and tubes “of iron or steel” in Heading 7306.

In this case, the subject conduit is coated on the interior with an epoxy resin coating comprised of epoxy, melamine and silicone as well as other components (“epoxy coating”). Record evidence establishes that these components are insulating materials. The epoxy coating meets the industry definitions for an



“electrically insulating varnish.” As applied on the electrical conduit, the coating serves the insulating functions intended for electrically insulating varnishes in the electrical industry. Consequently, the subject conduit constitutes electrical conduit tubing of base metal that is lined with insulating material. In more than twenty years of Customs rulings regarding electrical conduit products, including other electrical conduit tubing lined on the interior with an epoxy coating—merchandise that is identical to the subject conduit—Customs has consistently classified products comprised of base metal lined with organic coatings in Heading 8547. Accordingly, Shamrock classified its imports of the subject conduit under Heading 8547. U.S. Customs and Border Protection (“Customs”) reclassified the goods under Heading 7306, and the U.S. Court of International Trade (“CIT”) affirmed.

Customs admitted, and the CIT held, that the subject conduit is lined with a coating that is composed of insulating material. Nevertheless, the CIT agreed with Customs that, to be classified under Heading 8547, it is not sufficient for the tubing to be lined with a coating of insulating material. In reaching this result, the CIT bypassed the plain meaning of the statutory language in Heading 8547 and relied instead on language in the Explanatory Note for Heading 7306. The CIT held that in order be classified within Heading 8547, the merchandise would need to qualify as “insulated electrical conduit tubing” as that term is used in Explanatory Note 73.06. As the term “insulated electrical conduit tubing” appears nowhere in the

HTSUS and is not defined in either Explanatory Note 73.06 or Explanatory Note 85.47, the CIT supplied its own definition of “insulated electrical conduit tubing” as lined conduit tubing that is capable of providing some unspecified, but “significant,” degree of electrical insulation, which it concluded the subject conduit does not satisfy.

The CIT thus stood the proper legal analysis on its head by relying on ambiguous language in the Explanatory Notes in preference to the plain meaning of the HTSUS provision at issue. Further, the CIT gave no weight to language in Explanatory Note 85.47—the note for the Heading being construed—that expressly recognizes electrically insulating varnishes as “insulating material.” In its decision, the CIT neither acknowledged the prior Customs rulings regarding electrical conduit products nor explained how the consistent line of Customs rulings were not persuasive. The CIT erred because no specific degree of electrical insulation is expressed in the plain language of the statute, which merely requires the material that lines the interior of electrical conduit to be an “insulating material.” Here, the material that lines the subject conduit is an electrically insulating varnish as that term is defined in the electrical industry and it serves the functions that electrically insulating varnishes are intended to perform on the interior of the subject conduit. This is sufficient for the subject conduit to meet the plain language of Heading 8547. Conduit tubing lined with electrically insulating

varnishes is expressly contemplated as within the scope of Heading 8547 pursuant to Explanatory Note 85.47. Shamrock thus respectfully submits that the CIT's classification of the subject conduit is in error and provides this principal brief pursuant to Federal Rule of Appellate Procedure 28(a) and Federal Circuit Rule 28(a).

## **II. STATEMENT OF RELATED CASES**

Plaintiff-Appellant Shamrock has commenced another action before the CIT that will be directly affected by this Court's decision pursuant to Federal Circuit Rule 47.5(a)(2). That action, *Shamrock Building Materials, Inc. v. United States*, CIT Case Number 21-00571, covers entries of the same subject conduit at issue in this matter that were not before the CIT in *Shamrock Building Materials, Inc. v. United States*, CIT Case Number 20-00074. Pursuant to Federal Circuit Rule 47.5(b), Shamrock separately files a Notice of Related Case Information regarding the related case.

## **III. JURISDICTIONAL STATEMENT**

The CIT exercised jurisdiction over the appeal of Shamrock's protest denials pursuant to 28 U.S.C. § 1581(a). Shamrock timely appealed the CIT's March 13, 2023 judgment on March 17, 2023, within 60 days of the final entry of judgment as required by Federal Rule of Appellate Procedure 4(a)(1)(B). This Court has jurisdiction to review the CIT's decision pursuant to 28 U.S.C. § 1295(a)(5).

#### **IV. STATEMENT OF THE ISSUES**

1. Whether electrical conduit lined with an electrically insulating varnish is *prima facie* classifiable pursuant to the plain language of Heading 8547 as “electrical conduit tubing... lined with insulating material.”
2. Whether electrical conduit lined with an electrically insulating varnish is *prima facie* classifiable pursuant to Heading 8547 when Explanatory Note 85.47 explicitly lists electrically insulating varnishes as insulating materials.
3. Whether the CIT erred by failing to afford any deference to Customs’ rulings regarding identical merchandise that it classified pursuant to Heading 8547.

#### **V. STATEMENT OF THE CASE**

Electrical conduits, including the EMT and IMC subject conduit, consist of hollow concentric tubes of steel.<sup>1</sup> Appx1802; Appx0913. Electrical conduit is electrical equipment. Appx1804; Appx0976-77. Electrical conduit encloses electrical wires in buildings and other structures. Appx1454-55; Appx1489-92. When the individual tubes are connected with steel couplings, the electrical conduit forms a “raceway” used to route electrical wires from one location to another. Appx0007; Appx1802. Electrical wire is installed through “runs” of electrical conduit as shown in Figure 1. Appx1454-55; Appx1490.

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<sup>1</sup> EMT and IMC differ by wall thickness, but are otherwise mostly similar. Appx0007.

Figure 1:



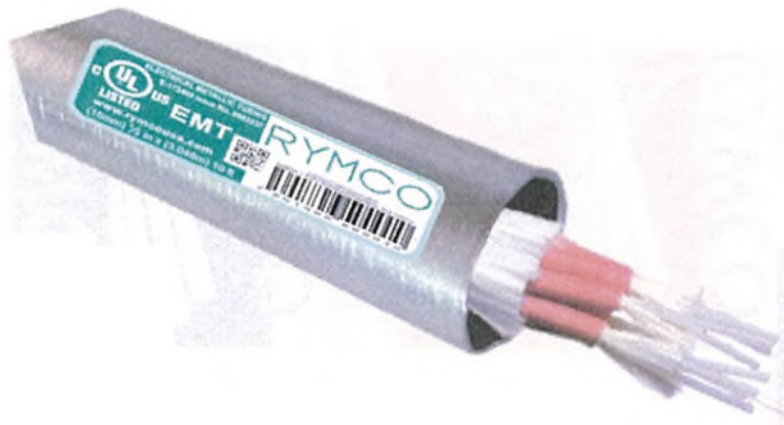
Like other electrical equipment, electrical conduit can be coated or lined with insulating materials such as electrically insulating varnishes. An “electrically insulating varnish” is defined by industry standards as “a liquid resin system that is applied to and cured on electrical components providing electrical, mechanical and environmental protection,” or more simply “a solution of natural or synthetic resins and modifiers which are converted by chemical action to form a film after evaporation of solvents.” Appx1706. In the electrical industry, the purpose of an electrically insulating varnish is “to form a protective resinous film over and throughout the main electrical structural components and insulations of an electrical apparatus in order to contribute to the total mechanical strength, and the electrical, thermal, and chemical resistance.” Appx1707. Electrically insulating

varnishes are applied to electrical equipment to seal structural components and insulators from dirt, moisture, acids and alkalies, as well as resist vibrations, cover nicks on enameled wire, fill small voids, and contribute to electrical resistance.

Appx1707.

The subject conduit at issue is electrical metallic tubing (“EMT”) finished conduit and intermediate metal conduit (“IMC”) produced by Conduit S.A. de C.V. d/b/a RYMCO (“RYMCO”). RYMCO-brand EMT is shown in Figure 2.

Figure 2:



The exterior surface of the subject conduit is galvanized with zinc, while the interior is coated with an epoxy coating that meets the definitions of an electrically insulating varnish. Appx0146; Appx1414; Appx0179; Appx0192; Appx1803; Appx1592. RYMCO sourced the epoxy coating from a company called Pintura Diamex and applied it to the interior of the subject conduit that it manufactured. Appx0144; Appx0178; Appx1412; Appx1591-92; Appx0949; Appx0952-64. Pinturas Diamex represented to RYMCO that the main components of the epoxy

coating are epoxy resin, melamine, and silicone, Appx1592, and stated that the epoxy coating contained other “insulating materials” but declined to provide the precise formulation of the coating due to trade secrets and patents, Appx1591; Appx0178; Appx0184; Appx0949; Appx0952-64. Pinturas Diamex explained that the materials used to make the epoxy coating on the interior of the subject conduit “are widely used in the formulation of insulating varnishes and resins,” and that the coating “forms {a} protective insulating coating over the underlying material.” Appx1591. Chemical analyses overseen by Dr. Jeffrey T. Gotro, Ph.D., Appx0168-216, confirmed that the epoxy coating consisted mainly of epoxy resin, melamine, and silicone, and that compositions of these materials are known to be electrically insulating, Appx0178-79; Appx0192-94; Appx0304-07; Appx0311-12. Epoxy and melamine are plastics. Appx0145-46; Appx1413.

Pinturas Diamex represented that the constituent materials of the epoxy coating “will create a film with electrical insulating properties,” and that the epoxy coating it sold to RYMCO and that RYMCO applied to the subject conduit “will provide a certain barrier against the transfer of electrons to the applied surface.” Appx1592. Electrical testing performed on the subject conduit confirms that the epoxy coating has electrical insulating properties and provides a barrier against the transfer of electrons. Dr. Joshua E. Jackson, Ph.D., performed electrical testing on the subject conduit on behalf of U.S. Corrosion Services, LLC and G2MT

Laboratories (“G2MT Labs”). Appx0823-39; Appx0854-62. In its testing, U.S. Corrosion Services LLC found no voltage flowed through the volume of the coating material. Appx0832-33; Appx0835; Appx0839. G2MT Labs conducted a test that compared the electrical properties of the subject conduit compared to other steel pipe that was not coated with an electrically insulating varnish, Appx0854-62; Appx0644-48, and found that the subject conduit provides higher electrical resistance than other steel pipe, Appx0858-59; Appx0700-0706, Appx0768. Dr. Athanasios Meliopoulos conducted testing for the Government and also found that the epoxy coating provides electrical resistance on the interior of the subject conduit. Appx1223; *see also* Appx2359; Appx2363; Appx2369. Accordingly, the electrical testing commissioned by both Plaintiff and the Government in this case demonstrates that the epoxy coating contributes electrical resistance to the subject conduit as intended by the coating manufacturer and the electrical industry expectations of electrically insulating varnishes. Appx2369; Appx1159-60.

Additionally, the epoxy coating physically protects the wires installed in the subject conduit by reducing abrasion to the insulation on the wires. Appx1803-05; Appx0159-61; Appx1436-37. G2MT Labs performed abrasion testing and found that wire run through the subject conduit had less damage than wire run through other steel pipe without an insulating varnish. Appx0858-62; Appx0644-48. Shamrock testified that the epoxy coating protects the interior of the tubes as well



as provides electrical insulating properties concerning the transfer of electrons.

Appx1159-60; Appx0768.

Shamrock reviewed Customs' rulings regarding similar electrical conduit products and determined, based on those Customs' rulings, that it should classify the subject conduit at entry pursuant to Heading 8547 of the HTSUS, specifically subheading 8547.90.0020. Appx1081-82; Appx0985; Appx1141-43; Appx1157. HTSUS subheading 8547.90.0020 provides for:

{E}lectrical conduit tubing and joints therefor, of base metal lined with insulating material:

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Other

\*\*\*

Electrical conduit tubing and joints therefor, of base metal lined with insulating material:

\*\*\*

Conduit tubing.

At the time of importation, merchandise from Mexico classified under subheading 8547.90.0020 was not subject to section 232 duties and was duty free under the North American Free Trade Agreement ("NAFTA").

Customs classified the subject conduit pursuant to Heading 7306, HTSUS, specifically subheading 7306.30.1000, which provides for:

Other tubes, pipes and hollow profiles (for example, open seamed or welded, riveted or similarly closed), of iron or steel:

Other, welded, of circular cross section, of iron or nonalloy steel:

Having a wall thickness of less than 1.65 mm;

or pursuant to subheading 7306.30.5028, HTSUS, as:

Other tubes, pipes and hollow profiles (for example, open seamed or welded, riveted or similarly closed), of iron or steel:

Other, welded, of circular cross section, of iron or nonalloy steel:

\*\*\*

Having a wall thickness of 1.65 mm or more:

\*\*\*

Other

\*\*\*

Other:

With an outside diameter not exceeding 114.3 mm:

Galvanized:

\*\*\*

Internally coated or lined with a non-electrically insulating material, suitable for use as electrical conduit.

At the time the merchandise was imported, merchandise imported from Mexico that was classified under subheadings 7306.30.1000 or 7306.30.5028 was subject to a 25 percent duty imposed pursuant to section 232 of the Trade Expansion Act of 1962, *as amended*, 19 U.S.C. § 1862.

Shamrock protested Customs' classification of the subject conduit pursuant to Heading 7306. Customs denied the protests. Shamrock appealed the denial of its protests to the CIT and moved for summary judgment. The Government cross-moved for summary judgment. The CIT denied Shamrock's motion and granted the Government's cross-motion. *Shamrock Building Materials, Inc. v. United States*, 619 F. Supp. 3d 1337 (Ct. Int'l Trade 2023). Shamrock appeals the

decision of the CIT denying Shamrock's motion for summary judgment and granting the Government's cross-motion for summary judgment.

## **VI. SUMMARY OF ARGUMENT**

The issue in this appeal is whether the subject conduit tubing falls within the plain meaning of the unambiguous terms of Heading 8547: namely whether the subject conduit is "lined with insulating material." The subject tubing is lined with epoxy resin, melamine and silicone. Those materials are universally recognized in scientific, technical and lexicographic authorities as insulating materials and, in particular, electrically insulating materials. The Government conceded that those materials are insulating. The authorities cited by Shamrock corroborate the expert opinion testimony of Shamrock's eminently qualified expert witness that these materials are insulating.

The CIT ignored the plain language of the Heading 8547 and substituted its own interpretation of the term "insulated electrical conduit tubing," a term that does not appear in Heading 8547. The CIT reached its conclusion by engaging in an extended interpretation and analysis of that non-statutory term, which appears only in the Explanatory Note to Heading 7306. When a statute is clear on its face, it is improper to resort to legislative history. When the words of a statute are unambiguous, the Supreme Court and this Court have made it clear that judicial

inquiry is complete. The trial court committed fundamental error in disregarding these fundamental principles of statutory interpretation.

## **VII. STANDARD OF REVIEW**

This Court reviews *de novo* a grant of summary judgment by the CIT.

*Kahrs Int’l Inc. v. United States*, 713 F.3d 640, 643-44 (Fed. Cir. 2013). Summary judgment is appropriate if, based upon the record, the movant shows “that there is no genuine issue as to any material fact and the moving party is entitled to a judgment as a matter of law.” *See Celotex Corp. v. Catrett*, 477 U.S. 317, 322-23, 106 S.Ct. 2548, 2552 (1986).

This Court reviews the classification of merchandise via a two-step analysis: the Court will first construe the relevant tariff headings, which is a question of law, and then decide, based upon the facts, under which of those headings the subject articles fall. *Schlumberger Tech. Corp. v. United States*, 845 F.3d 1158, 1162 (Fed. Cir. 2017); *Processed Plastics Co. v. United States*, 473 F.3d 1164, 1168-69 (Fed. Cir. 2006). While this Court has an “independent responsibility to decide the legal issue regarding the proper meaning and scope of tariff terms,” *Michael Simon Design, Inc. v. United States*, 501 F.3d 1303, 1305 (Fed. Cir. 2007), it also affords deference to prior Customs rulings relative to their “power to persuade,” *Skidmore v. Swift & Co.*, 323 U.S. 134, 140 (1944).

## **VIII. ARGUMENT**

The CIT erred by denying Shamrock’s motion for summary judgment and granting the Government’s cross-motion for summary judgment.

### **A. The Subject Conduit Is *Prima Facie* Classifiable Pursuant To the Plain Language of Heading 8547 Because It Is “Lined With Insulating Material.”**

The statute, Heading 8547, in plain and unambiguous language, covers “electrical conduit tubing... lined with insulating material.” The Supreme Court and this Court have recognized that Congress “says in a statute what it means and means in a statute what it says.” *Connecticut Nat’l Bank v. Germain*, 503 U.S. 249, 254 (1992); *see also Jones v. Brown*, 41 F.3d 634, 638 (Fed. Cir. 1994). The undisputed facts demonstrate that the subject conduit is *prima facie* classifiable within the plain language of Heading 8547.

There is no dispute that the subject conduit is electrical conduit tubing of base metal. The remaining question is whether the subject conduit is lined with insulating material. The subject conduit is indisputably lined on the interior with an epoxy coating whose “main components” are epoxy resin, melamine, and silicone, among other “insulating materials.” Appx1803-04; Appx1591-92; Appx2348; Appx2369. In fact, the Government admits that epoxy, silicone, and melamine are insulating. *Compare* Appx0153, Appx0161 to Appx1430, Appx1437; *see also* Appx2363; Appx0150-51; Appx1425-26. The undisputed

facts of this case reflect that epoxy, melamine, and silicone are insulating materials and that those same materials, along with other insulating materials, line the subject conduit. These two facts alone demonstrate that the subject conduit is covered by the plain language of Heading 8547 as electrical conduit “lined with insulating material.” Heading 8547, HTSUS. Customs has previously classified epoxy-coated EMT that is indistinguishable from the subject conduit pursuant to Heading 8547. Appx1360. As this Court has decided, when an article is covered by the unambiguous language of a tariff heading, “{t}hat is enough for the language of the heading to apply.” *Wilton Indus. v. United States*, 741 F.3d 1263, 1267 (Fed. Cir. 2013); *see also Connecticut Nat’l Bank*, 503 U.S. at 254 (“When the words of a statute are unambiguous, then, this first canon is also the last: ‘judicial inquiry is complete.’”).

**1. The Undisputed Facts Establish that the Subject Conduit is Lined With Insulating Material**

At the request of Customs in the administrative proceedings prior to litigation, Shamrock obtained a description of the epoxy coating from the coating manufacturer, Pinturas Diamex, which described the “main components” of the coating as epoxy resin, melamine, and silicone among the other “insulating materials” in the coating. Appx0163-64; Appx1440-41; Appx1591-92; Appx0952-64. Pinturas Diamex stated that the coating “will create a film with electrical insulating properties” and that “it will provide a certain barrier against the transfer

of electrons.” Appx0163-64; Appx1440-41; Appx1591-92; Appx0952-64. In other words, the coating manufacturer explained that the material, including the unnamed insulating materials in the coating, prevent the transfer of electricity. Dr. Jeffrey T. Gotro, a materials scientist with experience developing epoxy and thermosetting resins for electrically insulating applications, Appx0145; Appx1413; Appx0241-44, conducted chemical analysis that confirmed the coating contained epoxy, melamine, and silicone and testified that the coating is electrically insulating based on his experience using those materials for insulating varnishes and the electrical testing on the subject conduit. Appx0147-53; Appx1414-31; Appx0178-79; Appx0192-94; Appx0302; Appx0310-12; Appx0330-36; Appx2300-01.

Scientific sources including the U.S. Department of Commerce and the Institute of Electrical and Electronics Engineers (“IEEE”), characterized as reliable authorities by Dr. Gotro, Appx0422-25, agree that epoxy is electrically insulating, and the Government failed to provide evidence that disputes Dr. Gotro’s expert testimony and sources that describe epoxy as an electrically insulating material. Appx0147-0153; Appx1414-31; Appx1684-86; Appx1702-03; Appx1710; Appx2300-01. In Ruling HQ 951321, Customs, citing a memorandum from its Office of Laboratories and Scientific Services and the Plastics Technology Handbook, described “excellent electrical insulation” as one of the “the main

attributes” of epoxy. Appx1304-09. Additionally, industry sources who make similar epoxy products to Pinturas Diamex, such as Masterbond, MG Chemicals, and Hexion, confirm that epoxy has electrically insulating properties and that similar coatings are applied to electrical equipment to perform electrically insulating functions. Appx0147-49; Appx1416-21; Appx 0193-94; Appx0852; Appx1715; Appx1698; Appx1718; Appx0390-0392; Appx0365-66; Appx2300-01.

Both experts in this case agreed that whether a material is insulating depends on the material’s “resistivity.” Appx0152; Appx1429; Appx1219-20. Resistivity is the property of a material to resist the passage of electrical current through a unit volume of material under specified conditions of applied voltage, temperature, and time. Appx0152-0153; Appx1429. Defendant admits that the resistivity of a given material is an intrinsic property of that material that does not change depending on the use to which it is put, including when the material is a coating or lining on a pipe. Appx0152-0153; Appx1429-30; 0433-0435. According to the expert reports from both expert witnesses, electrical insulators have a resistivity of at least  $10^{12}$  ohm-meters. Appx1220; Appx0192; Appx0152; Appx1429.<sup>2</sup> Defendant admits that the materials—epoxy, melamine, and silicone—in the epoxy coating on the subject conduit have electrical resistivities of  $10^{12}$  to  $10^{13}$  ohm-meters, and thus are

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<sup>2</sup> Although the Government denies paragraph 64 of Shamrock’s statement of facts, the Government, in response, did not present evidence disputing the asserted fact. Appx0496-97; Appx1219-20.



categorized as electrical insulators in the electrical engineering industry pursuant to the categories proposed by the Government's expert. Appx0153; Appx1430; Appx1220; Appx0192. In fact, the Government admits that epoxy and silicone are insulating, Appx0161; Appx1437, and the fact that they prevent the flow of electricity is supported by electrical testing in this case.

Electrical testing on the interior of the subject conduit by both parties demonstrates that the epoxy coating resists electricity. U.S. Corrosion Services LLC conducted electrical tests that found no voltage flowed through the volume of the coating material. Appx0828-39. G2MT Labs conducted a test that compared the electrical properties of the subject conduit to other conduit that was lined with a material which simply prevented corrosion, *i.e.*, zinc, and found that the subject conduit had a higher electrical resistance than the zinc-coated conduit. Appx0858-59; Appx0644-48. Dr. Meliopolous, the Government's expert, also conducted testing and found that the interior of the subject conduit resisted electricity. Appx1223; Appx2358-59; Appx2369-70. The Government admits that the epoxy coating has higher electrical resistance than the underlying steel on which it is applied. Appx0161; Appx1437. The CIT likewise found that "the uncontested fact is that the coating material, in the form in which it exists on the inside of the subject conduit, has a measurable *electrically-insulating* property." Appx0022 (emphasis added).

The undisputed facts in this case unequivocally show that epoxy, melamine, and silicone—materials that admittedly are characterized as insulating—line the subject conduit. The undisputed facts of this case show that the epoxy coating demonstrates functional resistivity in electrical testing from both parties. The undisputed facts show that the epoxy coating prevents the flow of electricity. *See* Appx2358-59. There is no dispute about whether an insulating material lines the subject conduit. The subject conduit thus meets the plain language of the statute.

**2. Lexicographic Sources, Statutory Context, Customs Rulings And Case Law Confirm That The Subject Conduit Falls Squarely Within The Plain Language Of The Heading.**

Although dictionary definitions of “insulate” include broad references to protection generally and establish that its plain meaning is not limited to electrical applications,<sup>3</sup> both experts in this case agreed that, in the electrical context, “insulate” means “{to} prevent the passage of electricity to or from (something) by covering it in a nonconducting material.” Appx0153; Appx0416; Appx0518-19; Appx1315; Appx1430-31. Additionally, Merriam-Webster also defines “insulate” as “to separate from conducting bodies by means of nonconductors so as to prevent transfer of electricity, heat, or sound.” Appx1320. The Oxford English Dictionary

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<sup>3</sup> Lexicographic sources define the term “insulate” as “{to} protect from unpleasant effects or elements of something” or “to protect someone or something from harmful experiences or influences.” *See* Appx1315; Appx1320; Appx1325; Appx1329; *see also* Appx0160-61; Appx1437; *B.F. Goodrich Co. v. United States*, 38 Cust. Ct. 72 (1957).

defines “insulating,” in relevant part, as “{t}o cut off or isolate from conducting bodies by the interposition of non-conductors, so as to prevent the passage of electricity or heat.” *Insulating*, Oxford English Dictionary (available at <https://www.oed.com/view/Entry/97228>). The Cambridge Dictionary defines “insulate” as “to cover and surround something with a material or substance in order to stop heat, sound, or electricity from escaping or entering.” Appx1328. Each of these dictionary definitions regarding the electrical context of the term “insulate” note that the means by which the flow of electricity is prevented is a “material,” and most define that material to be a “nonconductor,” like the epoxy coating at issue, as the means by which electric flow is prevented or stopped.<sup>4</sup> Therefore, an “insulating material” is one where the elements, constituents, or substances of which it is made prevent the passage of electricity, heat, or sound. *See Material*, Merriam-Webster (available at <https://www.merriam-webster.com/dictionary/material>) (defining “material” as “the elements, constituents, or substances of which something is composed or can be made”); *see also* General Rules of Interpretation 2(b) (“Any reference in a heading to a material or substance shall be taken to include a reference to mixtures or combinations of that material or substance with other materials or substances.”).

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<sup>4</sup> The epoxy coating is not a “conductor” of electricity as that term is used in the electrical engineering field. Appx0163; Appx0551; Appx1440; Appx1220; Appx1224.

Heading 8547 lists two materials that are electrically insulating for purposes of the Heading. Besides electrical conduit, Heading 8547 covers “insulating fittings ... being fittings wholly of *insulating material*.” Heading 8547, HTSUS (emphasis added). Heading 8547 then lists “insulating fittings of ceramics” and “insulating fittings of *plastics*.” 8547.10, HTSUS; 8547.20, HTSUS (emphasis added). Heading 8547 expressly dictates that these two categories, namely plastics such as the epoxy and melamine that line the subject conduit, are electrically insulating materials covered by the Heading. *See* Appx0145-46; Appx1413-14; *see also Sigma-Tau HealthScience, Inc. v. United States*, 838 F.3d 1272, 1281 (Fed. Cir. 2016) (noting that vitamin D was unambiguously included under the relevant heading because it was expressly listed in a subheading). Undisputed testimony in this case explains that plastics are insulating. Defendant admits that Dr. Gotro testified that “plastics are usually poor conductors of heat and electricity. Most are insulators with high dielectric strength,” that such testimony is accurate in the chemical and scientific community, and did not present evidence to dispute that plastics are colloquially recognized as electrically insulating materials. Appx0150-51; Appx1426; Appx1739; *see also* Appx2300-01. Indeed, organic materials such as epoxy, which is a plastic, are commonly understood to “act as electrical insulators.” Appx1360; Appx1308.

Customs has repeatedly found electrical conduit products classifiable pursuant to Heading 8547 when lined with plastic without regard to the degree of electrical insulation that they perform, which demonstrates that plastics are insulating materials within the common meaning of the statutory term. In HQ 966525 and HQ 966526, Customs concluded that electrical conduit fittings were properly classified as lined with an “insulating material” simply because they were “*plastic-lined*.”<sup>5</sup> Appx1335-1340; Appx1344-1350. Similarly, in N290590, N291770, and N291623, Customs found that the electrical conduit connectors were classifiable pursuant to Heading 8547 because they featured a “thermoplastic” material. Appx1356; Appx2161; Appx2165. Customs has found steel conduit lined with an interior Teflon coating to be classifiable pursuant to Heading 8547 without reference to the degree of insulation that it provided or any evidence that it performed an electrically insulating as opposed to a physically insulating function. *See* Appx2182 (finding that Teflon is a plastic insulator). Customs has found a washer comprised of glass laminate and epoxy resin to be a fitting “wholly of

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<sup>5</sup> Google defines “line” to mean: “cover the inside surface of (a container or garment) with a layer of different material... form a layer on the inside surface of (an area); cover as if with a lining.” Appx2173. Dictionary.com defines “line” to mean: “to cover the inner side or surface of.” Appx2179. Shamrock also notes that Explanatory Note 85.47 clarifies that Heading 8547 covers metal tubing “coated or lined on the inside with insulating material.” Appx1312.

insulating material... {i}nsulating fitting of plastic” pursuant to Heading 8547. Appx2169.

These rulings demonstrate first, that the common meaning of the term “insulating material” as used in Heading 8547 includes as electrically insulating materials plastics such as epoxy and melamine, and second, that both Customs and importers of electrical conduit, fittings, and connectors have understood the statutory term accordingly. *See Reser’s Fine Foods, Inc. v. United States*, 27 CIT 1389, 1391-1392 (2003) (looking to how Customs addressed the meaning of a term in a prior ruling); *Rollerblade, Inc. v. United States*, 116 F. Supp. 2d 1247, 1252 (2000) (quoting how Customs applied a statutory term in a ruling letter).

The CIT has also examined some items that it considered to be “insulating materials” pursuant to the Tariff Schedule of the United States (“TSUS”). In *Naftone, Inc. v. United States*, the court found that a 5- to 12-micron thin film made from a solution of polycarbonate resin, to which certain unnamed solvents had been added, like the epoxy coating here, was an “electrical insulating material” despite not being properly classifiable as an “electrical insulator of rubber or plastics” pursuant to TSUS item 773.30. 67 Cust. Ct. 341, 346, 348 (1971). One witness in that case testified that the term “insulator” means, “{i}t prevents the current from flowing from one electrode to another.” *Id.* at 343. Another testified that the words “insulator” and “dielectric,” which the witnesses used

interchangeably, mean that “it does not conduct electricity.” *Id.* at 343, 344 n.3.

The court explicitly listed “resins” as examples of an insulating material. *Id.* at

344 n.3. Merriam-Webster defines “resin” as:

any of various solid or semisolid amorphous fusible flammable natural *organic substances* that are usually transparent or translucent and yellowish to brown, are formed especially in plant secretions, are soluble in organic solvents (such as ether) but not in water, *are electrical nonconductors*, and are used chiefly in varnishes, printing inks, *plastics*, and sizes and in medicine.

Appx2196 (emphasis added). In *Naftone*, the court found the polycarbonate film to be an insulating material “by virtue of its design, properties and applications,” 67 Cust. Ct. at 345, which are similar to the properties of epoxies used as electrically insulating varnishes that are designed and applied to perform an electrically insulating function, *e.g.*, Appx0852; Appx1710; Appx2217.

Following the holding in *Naftone*, in *Inter-Maritime Forwarding Co. v. United States*, the court found pressure-sensitive electrical tape to be “insulating material,” but not “an electric insulator of rubber or plastic” pursuant to TSUS item 773.30.” *Inter-Maritime Forwarding Co. v. United States*, 70 Cust. Ct. 133, 134, 141 (1973); *see also Devon Tape Corp. v. United States*, 57 Cust. Ct. 507, 511 (1966) (finding that similar thermoplastic tape was “properly classifiable by similitude to insulating materials composed wholly or in chief value of rubber”). In *Inter-Maritime*, one witness testified that epoxy and resins are electrical insulators. *Id.* at 135. The court noted that the term “insulator” had been defined

by lexicographers and technical authorities “broadly” as “a substance or material that is a non-conductor of electricity, heat or sound, which is used to inhibit or stop the passage of electric current.” *Id.* at 137. Another dictionary defined “insulator” as “{a} substance that is a non-conductor of electricity, heat, or sound, as cotton, gutta-percha, silk, and rubber, the dielectrics most commonly used for covering wires conveying electric currents.” *Id.* at 138. The court concluded that the term “insulating material” means a “material used for insulating purposes or from which an insulator may be made.” *Id.* at 140. These cases demonstrate that there are a variety of electrically insulating applications for electrically insulating materials, and corroborate lexicographic sources cited herein that define the common meaning of “insulate” as preventing the flow of electricity via the use of nonconducting materials.

### **3. The CIT’s Finding That The Subject Conduit Did Not Meet The Unambiguous Language Of The Statute Is Erroneous.**

Despite admitting that the subject conduit is lined with an epoxy coating that functions on subject conduit with a “measurable electrically insulating property,” the CIT found the subject conduit was not *prima facie* classifiable within the plain language of Heading 8547 as conduit “lined with insulating material.” According to the CIT, “the merchandise at issue here presents the very question that makes the heading term ambiguous.” Appx0015. The question that makes the Heading language ambiguous, according to the CIT, is: “must the lining effectively



‘insulate’ the wire (or wires), once installed, from the inner surface of the steel conduit, or is it sufficient that it perform some other function?” Appx0015. The CIT wholly fails to explain how the statutory term “lined with insulating material” can fairly be construed to raise the question of what would constitute “effective” insulation, a concept that is pulled out of thin air.

The CIT performed no analysis of the plain meaning of the statutory terms “lined with insulating material” in Heading 8547 and substituted its own definition of “lined with an insulating material” for the definition given by the statutory text, agency rulings, and prior court decisions. The CIT’s finding of ambiguity was based on an entirely unsupported premise that is disconnected from the “intended purpose and use” of electrical conduit sold in commerce. Electrical conduit coated on the interior with an electrically insulating varnish serves an electrically insulating purpose and is covered by the plain language of Heading 8547 as conduit lined with insulating material.

Heading 8547 expressly includes electrical conduit “lined with insulating material,” and does not place any other qualifiers on the term “insulating” or otherwise define the electrically insulating function that the material has to perform. Heading 8547, HTSUS. The undisputed facts that demonstrate the epoxy coating performs an electrically insulating function—including the Government’s admissions that the materials that line the conduit are characterized as insulating,

the statements from Pinturas Diamex regarding the expected performance of the coating, and electrical testing from both parties that shows the coating functions, as applied, with a measurable electrically insulating property—render the subject conduit *prima facie* classifiable pursuant to the express text of Heading 8547. *Wilton Indus. v. United States*, 741 F.3d 1263, 1267 (Fed. Cir. 2013) (“That is enough for the language of the heading to apply.”); *see also Well Luck Co. v. United States*, 887 F.3d 1106, 1113 (Fed. Cir. 2018) (finding cooked or roasted sunflower seeds unambiguously within the heading for “sunflower seeds”).

Nothing in the record supports the conclusion that the epoxy coating does not insulate wiring within the conduit as “effectively” as any other commercial conduit lined with electrically insulating material does. Electrically insulating varnishes applied on electrical equipment, such as the electrical conduit here, are applied “over and throughout the main structural components and insulations of an electrical apparatus,” not as the primary insulation (which is typically provided to the wire itself), but “to contribute to the total mechanical strength, and the electrical, thermal, and chemical resistance.” Appx1707. Defendant admits that both experts in this case testified that this is the purpose of electrically insulating varnishes. Appx0148-49; Appx0162; Appx1419; Appx1438. The undisputed facts demonstrate that the epoxy coating serves that function, as intended, by “effectively” contributing to the electrical resistance between the insulation already

present on the wires and the interior wall of the subject conduit. The CIT claims that it read Heading 8547 “in relation to the intended purpose and use of the conduit,” Appx0015, but cited no support, let alone statutory text, to support its assumptions that “electrical conduit lined with insulating material” should allegedly perform some more “effective” level of insulation in order to be classifiable pursuant to Heading 8547.

Moreover, the subject conduit meets the plain language of Heading 8547 because the plastic material that lines it is expressly contemplated as an insulating material. Epoxy and melamine are plastics, Appx0145; Appx1413, and the statute explicitly lists plastics as insulating materials for purposes of the Heading, which is consistent with the colloquial and scientific understanding of the material.

Appx0150-51; Appx1425-26; Appx1739; *see also* Subheading 8547.20, HTSUS.

It follows that, because plastics are expressly recognized as insulating materials for purposes of the Heading, electrical conduit lined with plastic is *prima facie* classifiable pursuant to it. *See Sigma-Tau HealthScience, Inc.*, 838 F.3d at 1281.

Customs has so classified electrical conduit fittings pursuant to Heading 8547 where it was simply lined with plastic without regard to the function that the plastic performed. Appx1335-41; Appx1344-50. Similarly, Customs separately classified electrical conduit connectors pursuant to Heading 8547 because they featured a “thermoplastic” material, despite the fact that the insulating function

performed by the insulator was not related to electricity. Appx1356-57; Appx2161; Appx2165-66. In Rulings N290590, N291770, and N291623, the thermoplastic material “serve{d} to protect the electrical conductors from abrasion as they emerge{d} from the conduit,” Appx1356-57; Appx2161; Appx2165-66, which is also one of the insulating functions that the epoxy coating performs here *in addition to* serving an electrically insulating function, Appx0159-61; Appx1436-37; Appx0858-62; Appx1454-55. These cases demonstrate that Customs and other importers of electrical conduit products in the electrical conduit industry have understood Heading 8547 pursuant to its common meaning, and that the plain meaning of its text requires no more than the electrical conduit be “lined with an insulating material” such as plastics like epoxy or melamine.

Conduit that meets this plain language does not have to perform the specific electrically insulating function assumed by the CIT. Indeed, electrically insulating materials are applied to electrical equipment to increase mechanical strength, provide chemical and thermal resistance, seal components, resist vibration, and protect from the environment, not only to provide the “significant” electrical insulation that the CIT hypothesized. Appx1706-07. Here, the subject conduit fits squarely within the plain meaning of the Heading because it is lined with materials that are admittedly insulating, both electrically and in the broader sense of the common meaning. Appx0159-61; Appx1436-37; Appx0858-62; Appx1315;

Appx1320; Appx1325; Appx1328-29. It is important to recognize the complementary aspects of the electrical and physical insulation provided by the epoxy coating: by physically protecting the insulation on the wires from damage, the coating preserves the electrical insulation on the wires. The undisputed fact that the epoxy coating performs an electrically insulating function on the subject conduit only further solidifies that the subject conduit is *prima facie* classifiable pursuant to Heading 8547.

Electrical conduit is electrical equipment, Appx1804; Appx0976-77, and the Court should interpret the plain meaning of the term “insulating material” as it relates to electrical conduit tubing and electrical equipment. Both experts agreed that the purpose of electrically insulating varnishes in the electrical engineering industry is to contribute to the total electrical resistance of the electrical system. Appx1707; Appx0148; Appx0162; Appx1419; Appx1438. Both experts also agreed that electrically insulating varnishes are applied in addition to, and on top of, other electrical insulations—in this case as an additional “barrier” of electrical resistance between the wires and the interior steel wall. Appx1707; Appx0148; Appx0162; Appx1419; Appx1438. Customs rulings have shown that electrically insulating materials that are applied to electrical conduit products, such as organic coatings and plastics, meet the plain meaning of “insulating material” without having to be shown to provide “effective insulation.” Appx1356; Appx 2161,

Appx2165. The subject conduit is lined with insulating material that functions with a measurable electrically insulating property, and therefore the Court should find the subject conduit is *prima facie* classifiable pursuant to the unambiguous language of Heading 8547. The CIT's decision to the contrary is untenable and severed from the commercial functions of electrical conduit lined on the interior with insulating materials.

**B. The CIT Misunderstood The Types Of Electrical Conduit Sold In Commerce.**

Because the CIT found the phrase “lined with insulating material” ambiguous, it examined the Explanatory Notes for Heading 8547 and Heading 7306 which, it claimed, “draw a distinction between two classes of goods, i.e., insulated and uninsulated electrical conduit tubing,” and then faulted the subject conduit for not being described as “insulated” in commerce. Appx0016. The CIT asserts, mistakenly, that the uncontested facts demonstrate that the degree of electrical resistivity is “not significant” in relation to the intended use of the conduit, and that the parties allegedly “agree... that while the coating provides some electrical resistivity, it does not do so in a way that would qualify the conduit as an insulator.” Appx0016-17. Thus, the CIT “interprets” Heading 8547 to describe “electrical conduit that performs an insulating function” and “indicates that the insulating layer must function in a way that relates to the ‘electrical conduit’ function,” which it claims, without support, is to “impede electrical

current.” Appx0018. The CIT concludes that the Explanatory Notes distinguish electrical conduit “identified in commerce as insulated conduit,” without identifying any evidence that “insulated conduit” actually has any independent, recognized definition in commerce other than the definition specifically provided in Heading 8547, electrical conduit “lined with insulating material.” Appx0019. The CIT’s analysis is devoid of support, both legal and factual, for its interpretation of Heading 8547 which views the Heading as if it defined some other, hypothetical, product manifesting additional properties not expressly set forth in the statute.

**1. The CIT Deviated From The Plain Meaning Of The Statute With An Unnecessary And Erroneous Interpretation Of The Explanatory Note**

The CIT cites two excerpts from the Explanatory Notes to reframe the text of the statute. First, Explanatory Note 85.47(B) explains that Heading 8547 covers metal tubing “provided it has an interior lining of insulating material,” and then it notes that “uninsulated metal tubing” is excluded. Appx1312. Second, Explanatory Note 73.06 notes that it “excludes... insulated electrical conduit tubing (Heading 85.47).” EN 73.06. Explanatory Note 73.06 does not define or elaborate on the meaning of “insulated electrical conduit tubing” as used therein. And that term appears neither in Heading 8547 nor in Explanatory Note 85.47, the note that describes what products are intended to be classified in Heading 8547.

The CIT nevertheless infers that the use of the term “insulated electrical conduit tubing” in Explanatory Note 73.06 is not merely a short-hand cross reference to the type of conduit tubing classified in Heading 8547, but rather defines substantively the standard a product must meet in order to be *prima facie* classifiable in Heading 8547. Further the CIT defines that term in a way that is not evident from anything in the explanatory note to Heading 8547 itself. As noted, Explanatory Note 85.47 merely describes the merchandise classified under Heading 8547 as metal tubing that has an interior lining of insulating material. Explanatory Note 85.47 then goes on to describe the *types of materials* that qualify as insulating material, and distinguishes electrically insulating varnish, paper or paperboard, rubber, plastics, etc. from varnishes that merely prevent corrosion.

The statutory language of Heading 8547 and Heading 7306, which is paramount over the text of the Explanatory Notes, contrasts electrical conduit tubing of base metal “lined with insulating material” and other pipes and tubes of iron or steel. *Compare* Heading 8547, HTSUS *with* Heading 7306, HTSUS. Heading 8547 and Heading 7306 do not draw a distinction between “insulated electrical conduit tubing” and “uninsulated metal tubing,” and the CIT may not elevate contextualizing cross-references from the Explanatory Notes above the statutory text. *Apple, Inc. v. United States*, 964 F.3d 1087, 1095-96 (Fed. Cir. 2020) (“Explanatory Notes cannot create an exception to an HTSUS heading...



They cannot be used to ‘narrow’ or amend or create ambiguity in the language of a HTSUS heading.”) (internal quotation marks and other punctuation removed); *Sigma-Tau HealthScience, Inc.*, 838 F.3d at 1281 (“Although the examples in the Explanatory Notes are probative and sometimes illuminating, we shall not employ their limiting characteristics, to the extent there are any, to narrow the language of the classification heading itself.”).

The cited sentences from the Explanatory Notes indicate, at most, that the text of Heading 8547 and Heading 7306 should be read, in context, together. Explanatory Note 85.47(B) explicitly covers metal tubing “provided it has an *interior lining of insulating material*,” and thus if it does not have an “interior lining of insulating material” then it is excluded from Heading 8547. Appx1312 (emphasis added). The latter statement that “uninsulated” metal tubing is excluded must be read in the light of the former sentence which explicitly states that conduit with “an interior lining of insulating material” is covered by Heading 8547. Similarly, the exclusion referenced in Explanatory Note 73.06 means precisely what it states: “insulated electrical conduit tubing” belongs under Heading 8547. In other words, if electrical conduit tubing is classifiable pursuant to the statutory text of Heading 8547, *i.e.*, “lined with insulating material,” then the conduit would not be classifiable pursuant to Heading 7306. Moreover, the Explanatory Note’s exclusion of “insulated electrical conduit tubing” from Heading 7306 does not

preclude the classification of electrical conduit tubing “lined with insulating material” under Heading 8547 pursuant to the statutory language. Thus, neither cross-reference that the CIT relied on defines the controlling statutory phrase “lined with insulating material” in Heading 8547.

Despite affording the cross-references controlling weight, the CIT acknowledged that Explanatory Note 85.47(B) “describes examples of various materials that are electrically insulating.” Appx0019. The CIT, however, failed to explain how those exemplars factored into its reading of Heading 8547, or acknowledge that the material that lines the subject conduit is expressly described by those exemplars: an electrically insulating varnish composed of plastic and other materials. Explanatory Note 85.47(B) provides that Heading 8547 consists of metal tubing “coated or lined on the inside with insulating material,” and that “the insulating material may be special *electrically insulating varnish*, paper or paper board, rubber, *plastics*, etc.” Appx1312 (emphasis added). Therefore, the Explanatory Note explicitly lists materials that are considered “insulating materials” pursuant to Heading 8547 because of their material properties, and yet the CIT failed to find that subject conduit lined with such enumerated materials *prima facie* classifiable pursuant to Heading 8547.

The CIT also focused on another exclusion referenced in Explanatory Note 85.47(B), which states “metal tubing simply coated with varnish to prevent

corrosion is excluded (Section XV).” Appx0018-19. The CIT contrasts the common meaning of “insulate”—which Shamrock noted includes a wide variety of protective applications, not just electricity—with a varnish that “insulates” metal from corrosion: “{P}laintiff’s broader reading of the term ‘insulate’ as having a ‘connotation of providing a protective layer between an underlying article and something harmful’ is at odds with the example of a coating of varnish that is applied merely to protect the metal from corrosion by *insulating* it from exposure to oxygen in the air.” Appx0019 (citing Appx1392) (emphasis added).

The Explanatory Note’s exclusion of conduit coated with materials that simply prevent corrosion in no way supports the CIT’s conclusion that conduit coated with materials that are electrically insulating could likewise be excluded from classification in Heading 8547. This can hardly be the case where those very materials are listed in the same Explanatory Note as electrically insulating and those materials in fact perform an electrically insulating function as applied on the interior of the subject conduit. Nor does the Explanatory Notes’ exclusion of materials that simply prevent corrosion thereby also exclude materials that may serve insulating purposes other than “insulating from exposure to oxygen in the air.” *See Michael Simon Design, Inc. v. United States*, 501 F.3d 1303, 1307 (Fed. Cir. 2007) (“{B}y expressly excluding only certain clothing articles from Chapter

95, the notes make clear that other textile clothing articles fall within its scope.”); *Apple, Inc.*, 964 F.3d at 1096; *Sigma-Tau*, 838 F.3d at 1281.

Instead, the exclusion of conduit coated only to prevent corrosion merely recognizes there are materials applied to the interior of conduit that prevent corrosion and serve no other purpose, namely zinc. Pursuant to industry standards such as UL 797, electrical conduit may be coated with either: zinc, alternative corrosion-resistant coatings, or organic coatings. Appx1601. Industry standards thus distinguish “organic coatings” from “alternative corrosion resistant coatings” that are applied to electrical conduit. Appx1601. The references in the Explanatory notes indicated that HTS follows this distinction. Organic resins are insulating materials and Customs has recognized that organic materials, namely epoxy, act as electrical insulators when coated on the interior of conduit tubing. In Ruling No. N306508, Customs classified UL 797 electrical conduit with an interior epoxy coating, a product almost identical to Shamrock’s subject conduit, pursuant to Heading 8547. Appx1359-61; Appx0193; Appx0146; Appx1414. In that case, Customs ruled that the interior epoxy coating “is made up of an organic resin compound, which would *act as an electrical insulator*.” Appx1360 (emphasis added). So, if the coating on the conduit is comprised of insulating material as listed in the explanatory note and performs an insulating function in addition to

corrosion prevention, then it cannot be said to be excluded based on the exclusion of “metal tubing simply coated with varnish to prevent corrosion.”

Such a dichotomy reflects the two types of electrical conduit produced and sold in commerce and found in the language of the tariff schedule: electrical conduit tubing of base metal “lined with insulating material” versus other pipes and tubes of iron or steel that are coated simply to prevent corrosion. The fundamental error underlying the CIT’s decision is that it failed to recognize that this is the dichotomy that distinguishes the types of conduit actually sold in commerce.

**2. The Undisputed Facts Demonstrate That The Epoxy Coating Serves A Significant Electrically Insulating Function**

The CIT claims that it reads Heading 8547 “to describe electrical conduit that performs an insulating function necessary or desirable for electrical wiring in applications for which the conduit is designed and for which it is marketed in commerce.” Appx0018 (citing no evidence regarding conduit designed and marketed accordingly). The CIT arrived at this interpretation allegedly because “{a} reading of the word ‘insulating’ in conjunction with the term ‘electrical conduit,’ in a common and commercial sense, indicates that the insulating layer must function in a way that relates to the ‘electrical conduit’ function, i.e., it must impede electrical current or isolate the heat from the wire from the inside surface

of the steel conduit.” Appx0018. Yet, the CIT cites no evidence to support that electrical conduit performs the interior insulating function that it assumes it would, or that conduit is marketed in commerce as such.

In the proceedings before Customs and the CIT below, Shamrock presented evidence regarding the types of conduit on the market and the different types of linings present on the interior of such conduit. Appx1375-77. Shamrock testified that there are two commercial types of metal tubing used as electrical conduit:

(1) those produced and distributed as electrical conduit that have an interior organic coating and (2) other metal tubing galvanized on the interior with zinc that is suitable for use as electrical conduit, which Shamrock distributes as “rigid” conduit. Appx0900-03. The EMT and IMC that Shamrock imported from RYMCO and that are at issue here fall in the former category with an interior organic coating, which contrasts from Shamrock’s rigid metal conduit tubing.

Appx0900-03. “Rigid” conduit, unlike the subject EMT and IMC, is coated on the interior and exterior surfaces with zinc (*i.e.*, “galvanized”), which prevents corrosion and serves no other purpose and which exemplifies the distinction found in the market and the statute when compared to the subject conduit. Appx0157-59; Appx1434-36; Appx1454. Rigid conduit is generic steel pipe and is properly classified under Heading 7306 even though it may be used as electrical conduit. Rigid conduit is not the subject of this appeal. The subject conduit, EMT and

IMC, is in contrast manufactured using a unique “in-line” process whereby the exterior of the conduit is coated with zinc and the interior surface is coated with the insulating epoxy coating. Appx0157-59; Appx0981; Appx1434-36; Appx1454. Shamrock testified that the manufacturing process and different properties provided by the epoxy coating distinguish subject conduit from rigid. Appx0900-03; Appx0981; Appx0983-84; Appx1157.

The CIT, however, without any record evidence, hypothesized that there must exist some third kind of electrical conduit known to commerce, as evidenced by the term “insulated electrical conduit tubing” in Explanatory Note 73.06. Appx2346-48; Appx2363-64. Only that third type of electrical conduit would fall within Heading 8547. *See* Appx0016-19. Significantly, however, the Government never presented any evidence of the existence of such a third type of electrical conduit.

The subject conduit belongs to the first category of conduit on the market because the interior epoxy coating provides insulating properties to the subject conduit. Electrical testing in this case was conducted by Dr. Joshua Jackson and Dr. Athanasios Meliopoulos, and both found that the subject conduit demonstrates electrical resistance and resistivity. Appx2369-70. Undisputed testimony from Dr. Jackson demonstrates that no electrical voltage flowed through the epoxy coating in his tests at U.S. Corrosion Services. Appx0155-57; Appx1433-34; Appx0832-

35. Other undisputed testimony from Dr. Jackson demonstrates that the epoxy coating provides electrical resistance, as evidenced in the G2MT Labs report. Appx0157-59; Appx0700; Appx0703-04; Appx767-68; Appx0858; Appx1434-35. In his testing at G2MT Labs, Dr. Jackson compared the subject conduit with rigid conduit, and the resulting data demonstrates that the subject conduit has a higher electrical resistance than rigid conduit. Appx0858; Appx0157-59; Appx1434-35; *see also* Appx0161; Appx1437. Dr. Meliopolous also conducted testing and found that the interior of the subject conduit resisted electricity. Appx1223; Appx2358-59; Appx2369-70.

The electrically insulating function that the coating performs is consistent with testimony from Dr. Jeffrey Gotro, a materials scientist with experience developing epoxy resins for electrically insulating uses and applications, Appx0145; Appx0208-16; Appx0241-43, Appx1413, who testified that the epoxy coating is insulating based on his experience with epoxies in electrically insulating applications and uniform scientific literature regarding the insulating applications of epoxy, melamine, and silicone. Appx0151-53; Appx0179; Appx0192-94; Appx0331-34; Appx1427-30. The coating's electrically insulating function is also consistent with the descriptions of the epoxy coating from the coating manufacturer, who described the epoxy coating as "a film with electrical insulating properties, as their {sic} main components (Epoxy resins, Melamine and Silicones)



are widely use {sic} on the manufacturing of electrical insulation resins and varnishes, therefor it will provide a certain barrier against the transfer of electrons to the applied surface.” Appx1591-92. The CIT itself found that “{t}he uncontested fact is that the coating material, *in the form in which it exists on the inside of the subject conduit*, has a measureable electrically-insulating property.” Appx0022 (emphasis in original). There is no dispute that the subject conduit provides a higher electrical resistance compared to other types of conduit in commerce, such as rigid, as a result of the epoxy coating on the interior. The CIT’s limitation of Heading 8547 to only “insulated conduit” or conduit so lined that it “would qualify the conduit as an insulator” reads the term “material” out of the express statutory text that merely requires the conduit to be “lined with insulating material.” Appx0017-19.

The electrically insulating property functionally distinguishes subject conduit from other pipes and tubes internally coated or lined with non-electrically insulating material so that it is *prima facie* classifiable pursuant to Heading 8547 as “lined with insulating material.” The CIT suggested that “while the coating provides some electrical resistivity, it does not do so in a way that would qualify the conduit as an insulator” because “the degree of resistivity is not significant in relation to the intended use of the conduit.” Appx0016-17; *see also* Appx0018-19 (faulting the subject conduit because it allegedly is not “insulating” to a

“significant degree”). The CIT claims that the conduit does not “significantly” impede the flow of electrical current and that Shamrock “does not contend that the coating provides significant protection from current flow.” Appx0017. But that is precisely what Shamrock contends: the electrically insulating quality of the subject conduit that results from the epoxy coating is significant and distinguishes it from other conduit sold in commerce, specifically conduit coated on the interior with non-electrically insulating materials that prevent corrosion but serve no other purpose, such as rigid conduit. Appx1375-77; Appx2288-2300.

The undisputed facts demonstrate that the subject conduit serves an insulating function by providing higher electrical resistance and protection on the interior of the tube. *See* Appx0016 (“The parties agree that the coating inside the subject conduit provides some measureable resistance (or ‘resistivity’) to the flow of electric current when compared to the same pipe when uncoated”); Appx0161; Appx1437 (admitting the epoxy coating has a higher electrical resistance than the steel on which it is applied). The CIT thus found that, although the subject conduit is indisputably lined with a material that has an electrically-insulating property and functions on the subject conduit with “measurable electrical resistivity,” Appx0017; Appx0022; Appx2369, the conduit is not *prima facie* classifiable pursuant to Heading 8547 because the material does not “significantly” impede the

flow of electricity. This was error because Heading 8547 imposes no “significance” requirement.

Moreover, the CIT failed to address the “insulating varnish” standards to which the epoxy coating complies and functions. Explanatory Note 85.47 expressly describes “insulating material” as including “electrically insulating varnish.” Appx1312. Industry publications define the phrase “electrical insulating varnish,” and provide commercial context for the function that electrically insulating varnishes perform on electrical equipment. The American Society for Testing Materials (“ASTM”) defines “electrical insulating varnish” as “a liquid resin system that is applied to and cured on electrical components providing *electrical, mechanical and environmental protection.*” Appx1706 (emphasis added); *see also Arthur J. Humphreys, Inc. v. United States*, 973 F.2d 1554, 1559 (Fed. Cir. 1992) (“Industrial or commercial standards are useful in ascertaining the commercial meaning of a tariff term.”). Similarly, but more broadly, the National Electrical Manufacturers Association (“NEMA”) definition of “electrical insulating varnish,” which was approved by the American National Standards Institute (“ANSI”), is “a solution of natural or synthetic resins and modifiers which are converted by chemical action to form a film after evaporation of solvents.” Appx1706. As noted previously, Merriam-Webster defines “resin” as “organic

substances that... are electrical nonconductors.” Appx2196; *see also* Appx2205-06.

Additionally, the Institute of Electrical and Electronic Engineers (“IEEE”) explains the function of electrically insulating varnishes:

The purpose of an electrical insulating varnish is to form a protective resinous film over and throughout the main electrical structural components and insulations of an electrical apparatus in order to contribute to the total mechanical strength, and the electrical, thermal, and chemical resistance.

Appx1707. The purpose of electrically insulating varnishes is undisputed as both experts agreed that the foregoing statement from the IEEE regarding the purpose of electrically insulating varnishes is accurate. Appx0148; Appx1419; Appx0162; Appx1438; *see also* Appx2300-01. The Government also admits that expert testimony explains that insulating varnishes “are applied over electrical conductors to provide *a layer* of electrical isolation and prevent shorting.” Appx0149 (emphasis added); Appx1421; Appx1715; *see also* Fed. R. Evid. 803(18). Note that “insulating varnishes” are not the primary insulation for electrical equipment, and instead are applied “over and throughout the main electrical structural components *and insulations*.” Appx1707 (emphasis added). They are “used to coat and/or saturate the *other insulations* and construction materials of an electrical apparatus.” *Id.* (emphasis added). Accordingly, “electrically insulating varnish” in the electrical industry refers to “resins” that are applied “on electrical components”

and that serve protective functions including a degree of “electrical protection” beyond simply preventing corrosion. This is the distinction drawn between the plain text of Heading 8547 and Heading 7306 and their explanatory notes, and the CIT misinterprets the functions for which electrically insulating varnishes are applied to electrical conduit.

The subject conduit functions as electrical conduit lined with insulating material because the epoxy coating meets the industry definitions of “electrically insulating varnishes” and serves the purpose that electrically insulating varnishes are intended to perform on electrical equipment such as electrical conduit. That is, the insulating varnish on the interior of the subject conduit provides electrical insulation and protection to “main electrical structural components” *i.e.*, the wires passing through the conduit, by resisting the flow of electricity directly and also by cushioning and preventing abrasion to insulation already present on the wires. Both Dr. Meliopoulos and Dr. Jackson found that the epoxy coating results in some measurable electrical resistivity or resistance. Appx0832-33; Appx 0858; Appx1223; Appx2358-59; Appx2368-70. Importantly, the increase in electrical resistivity on the interior of the subject conduit as a result of the epoxy coating is indisputably “significant” enough to alter the characteristics of the interior steel wall, which would otherwise be conductive. Appx1220 (setting the resistivity threshold for conductors); Appx1224 (characterizing the interior of the subject

conduit as semiconducting, rather than conducting); Appx1315 (defining “insulate” as the use of a “nonconducting material”); Appx1320 (defining “insulate” as the use of “nonconductors”); *see also* Appx0021 (finding that, “[h]ad this case gone to trial,” Dr. Meliopoulos’s testimony would have been excluded to the extent it characterized the coating as a semiconductor rather than as an insulator); Appx1427 (citing Appx1219-20) (not presenting evidence to dispute that “the distinction between insulators and semiconductors is arbitrary and, from the point of view of metal-insulator transitions, all semiconductors are insulators”); Appx0151; Appx1851-52; Appx0425-0426. The electrically insulating properties that the epoxy coating imparts to the subject conduit is consistent with Customs Ruling No. N306508, where Customs found that UL 797 conduit tubing lined with an interior coating of epoxy resin was properly classifiable pursuant to Heading 8547 because the coating “would act as an electrical insulator.” Appx1360. Accordingly, there is no dispute that the epoxy coating provides “electrical, mechanical and environmental protection,” or that the epoxy coating meets the ASTM or NEMA definitions of an electrically insulating varnish. Appx0159-61; Appx0164; Appx1436-37; Appx1706; Appx1803-84.

Nor is there any dispute that the epoxy coating is a “protective” resin film applied “over and throughout” the electrical conduit as a “main electrical structural component.” Appx0159-61; Appx1436-37; Appx1407-09. The epoxy coating

thus provides an additional layer “over” the insulations present in the electrical system, specifically the insulation on the wires within the conduit, which is the purpose of electrically insulating varnishes in the industry. Appx1454-55; Appx1707; Appx1802-05; Appx0540-41. Because the epoxy coating indisputably increases the electrical resistance of the underlying steel and protects the wires run through the conduit, Appx0161; Appx1437, it thereby “contribute{s} to the total mechanical strength, and the electrical, thermal, and chemical resistance” of the electrical system housed within the subject conduit. Appx1707. It cannot be said that the epoxy coating on the subject conduit does not “significantly” or “effectively” serve the resistive function intended of electrically insulating varnishes; it does so pursuant to electrically insulating varnish definitions and standards.

The CIT’s interpretation of electrical conduit “lined with insulating material” impermissibly concluded, without any evidentiary or legal support, that electrical conduit lined on the interior with an electrically insulating varnish—which meets the industry definitions of “electrically insulating varnishes” and serves the functions that “electrically insulating varnishes” are intended to serve—would not be *prima facie* classifiable pursuant to Heading 8547, despite meeting the plain language of the Heading as clarified by the Explanatory Note. Insulating varnishes do in fact play a “significant” role in the overall electrical system as a

whole. *Compare* Appx0016-17 to Appx1706 (“Electrical insulating varnishes are an important category of protective materials that contribute to the harnessing of electricity in electrical and electronic devices.”). The CIT’s limitation of the phrase “insulating material” in Heading 8547 to mean only those coatings that qualify the conduit itself as an “insulator,” Appx0017, re-writes the statute in a way that conflicts with the plain language of Heading 8547, the Explanatory Note, and actual electrically insulating uses of materials on the interior of commercial conduit. The undisputed facts of this case show that the subject conduit here represents the quintessential example of electrical conduit lined on the interior with an electrically insulating material as described in the explanatory note. No evidence suggests that there exists a third type of electrical conduit sold in commerce other than those with an interior organic coating like the subject conduit at issue here and those that are coated on the interior with zinc. Appx2347; Appx2363-64. The Government at no point has provided any evidence that there exists in commerce some other form of electrical conduit that is more “insulated” on the interior than the subject conduit. Nor is there any evidence that the phrase “insulated electrical conduit tubing” in Explanatory Note 73.06 would mean anything other than electrical conduit tubing “lined with insulating material” pursuant to the plain language of Heading 8547. The CIT’s comparison of the subject conduit with its own unsupported and hypothetical “insulated electrical



conduit tubing” is entirely speculative and may not legally be used to define the meaning of the tariff code.

**C. The CIT Improperly Declined To Afford Any Deference To Prior Relevant Customs Rulings**

The CIT failed to explain how Customs rulings regarding Heading 8547 were not persuasive. Customs rulings are entitled to deference relative to their power to persuade including the rulings’ thoroughness, logic, consistency with prior interpretations, and any other sources of weight. *Skidmore v. Swift & Co.*, 323 U.S. 134, 140 (1944). This Court has afforded deference to prior Customs rulings where it is warranted. *See Kahrs Int’l Inc. v. United States*, 713 F.3d 640, 648 (Fed. Cir. 2013); *see also United States v. Mead Corp.*, 533 U.S. 218, 235 (2001). In its briefing before the CIT, as it has done herein, Shamrock explained how Customs consistently interpreted Heading 8547 without requiring a “significant” degree of electrical insulation in order for electrical conduit products to be classified under it, including a Customs ruling regarding electrical conduit identical to the subject conduit. Appx1397-1400 (citing Appx1360); *see also* Appx1335-41; Appx1344-50. Despite the fact that Customs has classified identical merchandise pursuant to Heading 8547, the CIT provided no explanation or reason as to why the applicable Customs rulings were not persuasive.

In Ruling N306508, Customs examined the classification of electrical conduit that was compliant with UL 797 and “made up of steel with an exterior

coating of zinc and an interior coating of stoved epoxy resin.” Appx1360. The conduit and coating examined in N306508 are identical to the subject conduit and epoxy coating at issue in this case. Both epoxies are a mixture of epoxy and other unnamed materials that form a thermoset insulating coating. Appx0193; Appx0145-46; Appx 0150-51; Appx1413-14; Appx1425; Appx1427; Appx1591-92. In N306508, Customs conducted testing on samples of the imported conduit and determined that the appropriate test to conduct on the merchandise was a chemical analysis of the epoxy coating. Doing so was reasonable in light of the statute’s plain language which explicitly focuses on whether the material that lines the conduit has insulating qualities. The “testing concluded that the interior coating is made up of an organic resin compound, which would act as an electrical insulator.” Appx1360. Customs concluded that the applicable subheading for the EMT/UL797 white conduit tubing is 8547.90.0020, HTSUS—the same provision that Shamrock claims here. Customs thus recognized that organic materials, such as the epoxy coating applied to the subject conduit at issue here, are insulating materials pursuant to Heading 8547 because they act as an electrical insulator without regard to whether that electrically insulating function was of a “significant” degree. The Court has afforded deference to a prior Customs ruling that similarly addressed the issue before the Court like N306508 has. *Kahrs Int’l*, 713 F.3d at 648. Although it is not binding, Ruling N306508 claims the merit of

its power to persuade, *Mead*, 533 U.S. at 235, and CIT’s silent abrogation of that ruling and the ruling’s interpretation of Heading 8547 constitutes reversible error in this case.

The reasoning and logic of the ruling is valid. In Ruling N306508, Customs found that the terms of Heading 8547 “dictate that conduit tubing classified therein must be electrically insulating” and found that UL 797 conduit tubing with an interior coating of epoxy resin “are described accurately within the heading” because “organic resin” compounds “act as an electrical insulator.” Appx1360. That reasoning is consistent with the expert testimony in this case and the purposes of electrical conduit lined with insulating material. The purpose of insulating material applied to electrical conduit is to contribute to the total electrical resistance of the electrical system housed within the conduit, here by providing another barrier against electricity between the primary insulation present on wires and the conductive steel wall inside the conduit. Appx0148; Appx0162; Appx1419; Appx1438; Appx1707; Appx1592; Appx1454-55. The logic of the Customs ruling is supported by the definitions of: (1) “resin,” that define it as an electrical nonconductor, Appx2196, (2) “epoxy,” that define it as a class of resins used chiefly in coatings and electrical insulation, Appx2217, and (3) “electrically insulating varnishes,” that define them as a resin “applied to and cured on electrical components providing electrical, mechanical and environmental protection,”

Appx1706. The reasoning in the ruling is consistent with multiple scientific and industry sources regarding the insulating applications of epoxy in the electrical industry. Appx0161-62; Appx1438; Appx1684-86; Appx1702-04; *see also* Appx0852; Appx1718-1719; Appx1715; Appx1851-52. Indeed, it is consistent with Customs' own findings and internal memoranda regarding the electrically insulating properties of cured epoxy resins. Appx1306-08. Ruling N306508 therefore reasonably found that UL 797 electrical conduit with an interior epoxy resin would meet Heading 8547 as electrical conduit that is electrically insulating without regard to any quantification of the "significance" of that electrically insulating property.

Customs' thorough examination and scientific testing of the epoxy resin in N306508 is consistent with its rulings practice and past coordination with the Customs Laboratory. In Ruling N306508, samples had been provided to and examined by the Customs Laboratory, which conducted testing that verified the interior coating was made of an organic resin compound. Appx1360. This procedure is consistent with other cases where Customs similarly examined samples of steel conduit that it classified pursuant to Heading 8547 because it had an interior Teflon coating. *See, e.g.,* Appx1364. Therefore, Customs' rigorous examination of the merchandise in N306508, consistent with its prior rulings and past practice, is entitled to the measure of deference enshrined in *Skidmore*.

Other Customs rulings regarding electrical conduit products have not required any specific degree of electrical insulation, but rather classified them pursuant to Heading 8547 if they were lined on the interior with an insulating material and served an insulating purpose. In Rulings N290590, N291770, and N291623, Customs classified electrical conduit connectors pursuant to Heading 8547 because they featured a “thermoplastic” material that “served to protect the electrical conductors from abrasion as they emerged from the conduit.” Appx1356-57; Appx2161; Appx2165-66. In HQ 966525 and HQ 966526, Customs classified electrical conduit fittings pursuant to Heading 8547 simply because they were “plastic-lined” without regard to the function that the plastic performed. Appx1335-41; Appx1344-50. In Ruling NY I84073, Customs classified stainless steel conduit with an interior Teflon coating because it “insulated and protected” the wire, but did not require that the insulating material perform a specific degree of electrical insulation. Appx1364-65. These rulings are consistent with N306508 because Customs considered the material that lined the conduit to be an insulating material and determined that the material served an insulating function, but placed no other qualifiers on the specific insulating function that the material had to perform.

These rulings, including N306508, “constitute a body of experience and informed judgment to which courts and litigants may properly resort for guidance.”

*Skidmore*, 323 U.S. at 140. Shamrock in fact relied on many of those rulings here when it declared the subject conduit to Customs at entry. Appx1141-42; Appx1081-82; Appx0985. Deference should therefore be afforded to Customs Ruling N306508 and the prior consistent rulings “given the value of uniformity” in Customs’ “administrative and judicial understandings of what {the} national law requires.” *Mead*, 533 U.S. at 234. By declining to acknowledge N306508 or predecessors, the CIT shattered more than twenty years of consistent interpretations of Heading 8547 without justification. Shamrock urges the Court to consider N306508 in light of the expert testimony in this case and the consistent interpretations of Heading 8547 by Customs. Such rulings reasonably account for the actual insulating materials on the interior of electrical conduit, and the insulating uses of those materials and electrical conduit products in commerce whereas the CIT’s decision did not.

**D. While It Is Clear That the Epoxy Coating Is Electrically Insulating, the Subject Conduit Is Classified As “Lined With an Insulating Material” Because It Also Serves Other Insulating Functions**

Nothing in the plain language of the Heading 8547 requires that the insulating material insulate electrically as opposed to its common lexicographic meaning. Appx1315; Appx1320; Appx1325; Appx1329; *see also B.F. Goodrich Co. v. United States*, 38 Cust. Ct. 72 (1957). The Government’s own expert testified that “in lay terms,” “of course” insulation has other meanings besides the

electrical context, including insulation “from the weather.” Appx0161; Appx1437; Appx0522-23. In *B.F. Goodrich Company v. United States*, the CIT found that cylindrical sponge rubber was used for colloquially “insulating” purposes because it was ultimately fastened around the perimeter of car doors “so that, when the door was closed against it, wind, dust, and rain would be kept out, and the vibration of the door would be absorbed,” without regard to electricity. *B.F. Goodrich Co. v. United States*, 38 Cust. Ct. 72, 73 (1957). The *Goodrich* Court interpreted the meaning of “insulating” in context with regard to the product at issue in that case, weather stripping. It follows that the Court should consider the colloquial aspects of the term “insulate,” other than corrosion, Appx1312; Appx0019, as the term “insulate” relates to electrical conduit and electrical equipment here.

As noted, electrically insulating materials are applied to electrical equipment for purposes other than electrical insulation, namely to increase mechanical strength, provide chemical and thermal resistance, seal components, resist vibration, and protect from the environment. Appx1706-07. Indeed, Customs has found electrical conduit connectors classifiable pursuant to Heading 8547 where they serve an abrasively insulating, rather than electrically insulating, function. Appx1360-61; Appx2161; Appx2165-66. There is no dispute that the epoxy coating here similarly insulates wires from abrasion, and there is no dispute that such insulation and protection from the wires is the purpose of electrical conduit.

See Appx0160-61; Appx1436-37. Thus, the subject conduit meets the plain meaning of Heading 8547 as electrical conduit lined with a colloquially insulating material.

## **IX. CONCLUSION AND STATEMENT OF RELIEF SOUGHT**

For the foregoing reasons, Plaintiff-Appellant Shamrock respectfully requests that the Court reverse the decision and judgment of the CIT, and enter judgment that the subject tubing is properly classifiable, as claimed, under Heading 8547.

Respectfully submitted,

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**ADDENDUM OF REQUIRED DOCUMENTS****CONTENTS**

<b>Tab</b>	<b>Document</b>	<b>Page Range</b>
1	Judgment, <i>Shamrock Building Materials, Inc., v. United States</i> , Ct. No. 20-00074 (Ct. Int'l Trade Mar. 13, 2023)	Appx0001-0002
2	Slip Op. 23-32, <i>Shamrock Building Materials, Inc., v. United States</i> , Ct. No. 20-00074 (Ct. Int'l Trade Mar. 13, 2023)	Appx0003-0023

UNITED STATES COURT OF INTERNATIONAL TRADE

SHAMROCK BUILDING MATERIALS,  
INC.,

Plaintiff,

v.

UNITED STATES,

Defendant.

Before: Timothy C. Stanceu, Judge

Court No. 20-00074

JUDGMENT

Upon consideration of plaintiff's motion in limine, Mot. in Limine, (April 11, 2022), ECF No. 41 ("Plaintiff's Motion in Limine"), plaintiff's motion for summary judgment, Pl.'s Mot. for Summary J. (June 3, 2023), ECF No. 43 ("Plaintiff's Summary Judgment Motion"), defendant's cross-motion for summary judgment and opposition to plaintiff's motion for summary judgment, Def.'s Cross-Mot. for Summary J. (Aug. 11, 2022), ECF Nos. 48 (original), 64 (corrected) ("Defendant's Cross-Motion"), and all other papers submitted herein, in conformance with the Opinion issued this day, and upon due deliberation, it is hereby

**ORDERED** that Plaintiff's Motion in Limine be, and hereby is, denied as moot; it is further

**ORDERED** that Plaintiff's Summary Judgment Motion be, and hereby is, denied; it is further

**ORDERED** that Defendant's Cross-Motion be, and hereby is, granted; and it is further

**ORDERED** that judgment be, and hereby is, entered in favor of defendant.

/s/ Timothy C. Stanceu  
Timothy C. Stanceu  
Judge

Dated: March 13, 2023  
New York, New York

Slip Op. 23-32

UNITED STATES COURT OF INTERNATIONAL TRADE

SHAMROCK BUILDING MATERIALS,  
INC.,

Plaintiff,

v.

UNITED STATES,

Defendant.

Before: Timothy C. Stanceu, Judge

Court No. 20-00074

OPINION

[Granting defendant's cross-motion for summary judgment on the tariff classifications of certain steel electrical conduit tubing]

Dated: March 13, 2023

*Patrick D. Gill*, Sandler Travis & Rosenberg, P.A., of New York, N.Y., argued for plaintiff. With him on the briefs was *Michael S. O'Rourke*.

*R. Will Planert*, Morris Manning & Martin, LLP, of Washington, D.C., for plaintiff. With him on the briefs were *Nicholas C. Duffey*, *Donald B. Cameron*, *Julie C. Mendoza*, *Brady W. Mills*, *Mary S. Hodgins*, *Eugene Degnan*, *Edward J. Thomas III*, and *Jordan L. Fleischer*.

*Marcella Powell*, Senior Trial Counsel, Commercial Litigation Branch, Civil Division, U.S. Department of Justice, of New York, N.Y., argued for defendant. With her on the briefs were *Brian M. Boynton*, Principal Deputy Assistant Attorney General, *Patricia M. McCarthy*, Director, and *Justin R. Miller*, Attorney-In-Charge. Of counsel on the briefs was *Mathias Rabinovitch*, Office of the Assistant Chief Counsel for International Trade Litigation, U.S. Customs and Border Protection.

Stanceu, Judge: Plaintiff Shamrock Building Materials, Inc. (“Shamrock”) brought this action to contest the denial of its administrative protests by U.S. Customs and Border Protection (“Customs” or “CBP”). Compl. ¶ 1 (May 20, 2020), ECF No. 10 (“Compl.”). Shamrock claims that Customs incorrectly determined the tariff classifications of certain imported steel electrical conduit tubing. *Id.* ¶ 8. Before the court are the parties’ cross-motions for summary judgment. The court awards summary judgment in favor of defendant United States.

### I. BACKGROUND

This case arose over the tariff classification of steel conduit tubing (“conduit”) that plaintiff imported from Mexico. *Id.* Shamrock was the importer of record for 201 entries of conduit at the Port of Laredo, Texas between June and October of 2018, which Customs liquidated between April and July of 2019. Summons 3–6 (Apr. 6, 2020), ECF No. 1 (“Summons”); Compl. ¶ 47. Following liquidation, Shamrock timely filed protests of CBP’s determinations of classification between June and August of 2019, which CBP denied on November 7 and December 9, 2019. Summons 3–6; Compl. ¶¶ 1, 6. Shamrock initiated the instant action to contest the denial of its protests with a timely filing of its summons on April 6, 2020 and filed its complaint on May 20, 2020.

Before the court are plaintiff’s and defendant’s motions for summary judgment. Pl.’s Mot. for Summary J. (June 3, 2022), ECF No. 43; Mem. in Supp. of Pl.’s Mot. for Summary J. (June 3, 2022), ECF No. 43 (“Pl.’s Br.”); Def.’s Cross-Mot. for Summary J.

(Aug. 11, 2022), ECF No. 48; Mem. of Law in Resp. to Pl.’s Mot. for Summary J. and in Supp. of the Government’s Cross-Mot. for Summary J. (Aug. 11, 2022), ECF Nos. 48 (original), 64 (corrected) (“Def.’s Br.”);<sup>1</sup> Pl.’s Resp. to Def.’s Cross-Mot. for Summary J. (Sept. 29, 2022), ECF No. 55; Mem. of Law in Reply to Pl.’s Resp. to the Government’s Cross-Mot. for Summary J. (Nov. 10, 2022), ECF No. 61.

Also before the court is a motion in limine plaintiff filed on April 11, 2022, prior to the filing of the summary judgment motions, seeking a ruling that portions of the report of defendant’s designated expert witness would be inadmissible at trial. Mot. in Limine, ECF No. 41 (“Mot. in Limine”).

Following briefing on the motion and cross-motion for summary judgment, plaintiff and defendant jointly moved for oral argument. Joint Mot. for Oral Argument (Nov. 17, 2022), ECF No. 65. The court held oral argument on Thursday, February 23, 2023.

## II. DISCUSSION

### A. Jurisdiction and Standard of Review

The court exercises jurisdiction over this action pursuant to Section 201 of the Customs Courts Act of 1980, 28 U.S.C. § 1581(a), which grants the court “exclusive jurisdiction of any civil action commenced to contest the denial of a protest, in whole or

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<sup>1</sup> References to the Defendant’s Brief are to the original version (ECF No. 48), as the corrected version (ECF No. 64) addressed only a single error concerning a quoted figure from an identified expert witness.

in part, under section 515” of the Tariff Act of 1930 (“Tariff Act”), *as amended* 19 U.S.C. § 1515.<sup>2</sup> Actions to contest the denial of a protest are adjudicated by the court *de novo*. 28 U.S.C. § 2640(a)(1) (“The Court of International Trade shall make its determinations upon the basis of the record made before the court.”).

The court shall grant summary judgment “if the movant shows that there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law.” USCIT R. 56(a). In a tariff classification dispute, summary judgment is appropriate where “there is no genuine dispute as to the nature of the merchandise and the classification determination turns on the proper meaning and scope of the relevant tariff provisions.” *Deckers Outdoor Corp. v. United States*, 714 F.3d 1363, 1371 (Fed. Cir. 2013) (citations omitted).

### **B. Description of the Merchandise**

The facts stated in this Opinion to describe the conduit are taken from the submissions of the parties and, unless stated otherwise herein, are not in dispute.<sup>3</sup>

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<sup>2</sup> References to the United States Code and to the Harmonized Tariff Schedule of the United States (“HTSUS”) herein are to the 2018 editions.

<sup>3</sup> See Pl.’s Statement of Undisputed Material Facts (June 3, 2022), ECF No. 43; Def.’s Resp. to Pl.’s Statement of Undisputed Material Facts (Aug. 11, 2022), ECF No. 48-1; Def.’s Statement of Undisputed Material Facts (Aug. 11, 2022), ECF Nos. 48-2 (original), 64-1 (corrected); Pl.’s Resp. to Def.’s Statement of Undisputed Material Facts (Sept. 29, 2022), ECF No. 55-1; Mem. of Law in Resp. to Pl.’s Mot. for Summary J. and in Supp. of the Government’s Cross-Mot. for Summary J. Exs. 6, 14 (Aug. 11, 2022), ECF (continued...)

The imported conduit was produced in Mexico by Conduit S.A. de C.V., dba RYMCO. The parties describe the conduit as being of two types, “electrical metal tubing” (“EMT”) and “intermediate metal conduit” (“IMC”). Both are made of carbon steel with welded seams, are of circular cross section, are galvanized with a layer of zinc on the outer surface, are produced in ten-foot lengths, in various diameters, and are threaded at the ends. EMT and IMC are highly similar, differing with respect to wall thickness in that IMC is produced to relatively larger wall thicknesses than is EMT.

The conduit is used to form a “raceway” for the routing of electrical wiring from one location to another while protecting the wires within from external forces. It is suitable for use in routing and protecting wiring circuits (e.g., 110-volt circuits) in household and commercial applications. Individual lengths of conduit can be connected by threaded steel couplings.

Significant to the classification issue presented by this case, which involves the insulating characteristics of the imported merchandise, is a layer of organic epoxy coating (also referred to as “enamel”) on the interior surface of the conduit. The interior coating is comprised of epoxy resin, melamine resin, and silicone additives, among other materials, the precise composition of which is proprietary to the supplier of the

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Nos. 48 (original), 64 (corrected); Oral Argument at 0:06:07 (discussing the difference between EMT and IMC); *id.* at 2:10:00, 2:14:30, & 2:16:26 (confirming with the parties a set of undisputed facts); *id.* at 2:12:36 & 2:18:59 (discussing the measured thickness of the coating on the inside of the conduit).



epoxy coating, Pinturas Diamex S.A. The coating is transparent, allowing the steel surface of the inside of the conduit to be visible. The coating varies in thickness and was measured to be between 10 and 60 microns, inclusive.<sup>4</sup>

The interior coating protects wires from abrasion as they are pulled through the conduit. Epoxy, melamine, and silicone have electrically-insulating properties. The parties are unaware of any customers who purchased the conduit from Shamrock specifically “because the interior coating provides electrical insulation.”

### C. Tariff Classification under the HTSUS

Tariff classification under the Harmonized Tariff Schedule of the United States (“HTSUS”) is governed by the General Rules of Interpretation (“GRIs”) and, if applicable, the Additional U.S. Rules of Interpretation (“ARIs”), both of which are contained in the statutory text of the HTSUS. *Dependable Packaging Solutions, Inc. v. United States*, 757 F.3d 1374, 1377 (Fed. Cir. 2014) (citation omitted) (“Along with the headings and subheadings . . . the HTSUS statute also contains the ‘General Notes,’ the ‘General Rules of Interpretation’ (‘GRI’), the ‘Additional United States Rules of Interpretation’ (‘ARI’), and various appendices for particular categories of goods.”).

The GRIs are applied in numerical order, with GRI 1 providing that “classification shall be determined according to the terms of the headings and any

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<sup>4</sup> One micron is equal to one one-thousandth of a millimeter.

relative Section or Chapter Notes.” GRI 1, HTSUS. GRIs 2 through 6 apply “provided such headings or notes do not otherwise require.” *Id.*

After determining the correct four-digit heading, the court determines the correct subheading by applying GRI 6, HTSUS (directing determination of the subheading “according to the terms of those subheadings and any related subheading notes and, mutatis mutandis, to the above rules” [GRIs 1 through 6]).

#### **D. Judicial Review in Tariff Classification Disputes**

In adjudicating a tariff classification dispute, the court first considers whether “the government’s classification is correct, both independently and in comparison with the importer’s alternative.” *Jarvis Clark Co. v. United States*, 733 F.2d 873, 878 (Fed. Cir. 1984) (“*Jarvis Clark*”). The plaintiff has the burden of showing that the government’s classification of the subject merchandise was incorrect. *Id.* at 876. Subject to the plaintiff’s rebuttal, factual determinations by Customs are presumed correct, *see* 28 U.S.C. § 2639(a)(1), but the presumption of correctness applies to issues of fact and not questions of law, *Goodman Mfg. L.P. v. United States*, 69 F.3d 505, 508 (Fed. Cir. 1995). If the plaintiff satisfies its burden of demonstrating that the government’s classification was incorrect, the court must ascertain “the *correct* result, by whatever procedure is best suited to the case at hand.” *Jarvis Clark*, 733 F.2d at 878 (footnote omitted).

In determining the correct classification, the court undertakes a two-step analysis. *Faus Grp., Inc. v. United States*, 581 F.3d 1369, 1371 (Fed. Cir. 2009). “The first

step addresses the proper meaning of the relevant tariff provisions, which is a question of law.” *Id.* (citation omitted). “The second step involves determining whether the merchandise at issue falls within a particular tariff provision as construed, which, when disputed, is a question of fact.” *Id.* at 1371–72 (citation omitted).

“Absent contrary legislative intent, HTSUS terms are to be construed according to their common and commercial meanings.” *La Crosse Tech., Ltd. v. United States*, 723 F.3d 1353, 1358 (Fed. Cir. 2013) (quoting *Carl Zeiss, Inc. v. United States*, 195 F.3d 1375, 1379 (Fed. Cir. 1999)). When interpreting tariff terms in the HTSUS, the court “may consult lexicographic and scientific authorities, dictionaries, and other reliable information sources.” *Carl Zeiss*, 195 F.3d at 1379 (citing *Baxter Healthcare Corp. of P.R. v. United States*, 182 F.3d 1333, 1337 (Fed. Cir. 1999)).

The court also consults the Explanatory Notes (“ENs”) for the Harmonized Commodity Description and Coding System (“Harmonized System” or “HS”) maintained by the World Customs Organization. Although not legally binding, the Explanatory Notes “are generally indicative of the proper interpretation of a tariff provision.” *Degussa Corp. v. United States*, 508 F.3d 1044, 1047 (Fed. Cir. 2007) (citing *Motorola, Inc. v. United States*, 436 F.3d 1357, 1361 (Fed. Cir. 2006)). The HTSUS is organized according to Harmonized System rules and nomenclature (pursuant to the “Harmonized System Convention”). The Explanatory Notes are informative as to the intent of the drafters of the Harmonized System where, as in this case, the dispute

involves a legal determination of the scope of the competing headings as determined under the GRIs and the section and chapter notes.

### E. Claims of the Parties

Upon liquidation of the entries, Customs classified the imported merchandise under heading 7306, HTSUS, in subheadings according to the wall thickness of the conduit, as follows:

Subheading 7306.30.1000, HTSUS (“Other tubes, pipes, and hollow profiles (for example, open seamed or welded, riveted or similarly closed), of iron or steel: Other, welded, of circular cross section, of iron or nonalloy steel: Having a wall thickness of less than 1.65 mm”)

Subheading 7306.30.5028, HTSUS (“Other tubes, pipes, and hollow profiles (for example, open seamed or welded, riveted or similarly closed), of iron or steel: Other, welded, of circular cross section, of iron or nonalloy steel: . . . Having a wall thickness of 1.65 mm or more: . . . Other: . . . Other: With an outside diameter not exceeding 114.3 mm: Galvanized: . . . Internally coated or lined with a non-electrically insulating material, suitable for use as electrical conduit”).

Goods entered in 2018 that were classified in subheadings 7306.30.10 and 7306.30.50, HTSUS were free of general (Column 1) duty, but the entries at issue were subject to a duty of 25% *ad valorem* under U.S. note 16 to subchapter III of chapter 99 and subheading 9903.80.01, HTSUS. These provisions implemented Presidential Proclamation 9705, *Adjusting Imports of Steel Into the United States*, 83 Fed. Reg. 11,625 (Exec. Off. of the President Mar. 15, 2018), issued under Section 232 of the Trade Expansion Act of 1962, *as amended*, 19 U.S.C. § 1862. Proclamation 9705 was in effect and applied to products of Mexico during the dates of the entries in this action.

*Adjusting Imports of Steel Into the United States*, 83 Fed. Reg. 11,625; Presidential Proclamation 9740, *Adjusting Imports of Steel Into the United States*, 83 Fed. Reg. 20,683 (Exec. Off. of the President May 7, 2018); Presidential Proclamation 9894, *Adjusting Imports of Steel Into the United States*, 84 Fed. Reg. 23,987 (Exec. Off. of the President May 23, 2019).

Plaintiff claims classification in subheading 8547.90.0020, HTSUS (“ . . . electrical conduit tubing and joints therefor, of base metal lined with insulating material: . . . Other: . . . Electrical conduit tubing and joints therefor, of base metal lined with insulating material: Conduit tubing”). Summons 2; Compl. ¶ 33. Goods so classified were subject to general (Column 1) duty of 4.6% *ad valorem*, with duty-free treatment applying to goods qualifying for preferential duty treatment under the North American Free Trade Agreement Implementation Act. *See* Gen. Note 12, HTSUS.

Defendant claims that the tariff classifications determined by Customs upon liquidation are correct. Def.’s Br. 1.

#### **F. Application of GRI 1, HTSUS, to Determine the Appropriate Heading**

As required by GRI 1, HTSUS, the court first considers the terms of the headings and any relative section and chapter notes in ascertaining the correct four-digit heading for the classification of the imported conduit.

The candidate headings of the HTSUS identified by the parties, with the respective article descriptions (in pertinent part), are as follows:

Heading 7306, HTSUS: “Other tubes, pipes, and hollow profiles (for example, open seamed or welded, riveted or similarly closed), of iron or steel”

Heading 8547, HTSUS: “. . . electrical conduit tubing and joints therefor, of base metal lined with insulating material”

The parties have not provided, and the court has not identified, any other candidate headings.

Heading 7306 is within section XV of the HTSUS while heading 8547 is within section XVI. According to note 1(f) to section XV, HTSUS section XV “does not cover: . . . Articles of section XVI (machinery, mechanical appliances and *electrical goods*)” (emphasis added). Therefore, the court first considers whether the conduit is within the scope of heading 8547, and if it is, heading 7306, although including welded carbon steel tubing of circular cross section, must be eliminated from consideration by operation of GRI 1.

The term within the article description for heading 8547, HTSUS pertinent to this dispute is “electrical conduit tubing . . . of base metal lined with insulating material.” The undisputed facts are that the imported conduit at issue is “electrical conduit tubing” and that it is made of base metal (steel). The issue, then, is whether the conduit is “electrical conduit tubing . . . of base metal *lined with insulating material*,” heading 8547, HTSUS (emphasis added), within the meaning of that term as it appears in the article description for the heading.

The parties disagree on the meaning of “insulating.” Plaintiff reads the heading term broadly, arguing that “[t]he term ‘insulate’ refers to the connotation of providing a protective layer between an underlying article and something harmful.” Pl.’s Br. 19 (citing various dictionary definitions). This would include, in plaintiff’s view, the protection of wire from damage as it is pulled through the conduit during the installation process. In that regard, an advertising brochure describing the EMT refers to the inside surface of the conduit in stating: “Smooth interior coating insulates wall to provide easy installation of wire.” Def.’s Br. Ex. 6. The brochure makes no other reference to insulation and does not advertise the interior coating as providing insulation from electrical current.

Defendant argues that the term “insulating,” when read in context, must be interpreted “within the context of electrical equipment.” Def.’s Br. 14. Under defendant’s view, “insulating” should be read to mean “[t]o cut off or isolate from conducting bodies by the interposition of non-conductors, so as to prevent the passage of electricity or heat.” *Id.* (quoting the Oxford English Dictionary).

The parties also disagree on the interpretation of the heading term, “electrical conduit tubing . . . of base metal lined with insulating material,” considered on the whole. Taking a “plain meaning” approach, and arguing that the heading term is unambiguous, plaintiff interprets the term to be satisfied so long as the conduit is coated on the interior surface with a substance that has general application as an

insulator, regardless of the thickness, or degree of insulating performance, of the coating on the particular conduit at issue. Plaintiff argues that heading 8547, HTSUS is appropriate because “[t]he subject conduit is lined with epoxy resin, melamine and silicone. Those materials are universally recognized in scientific, technical, and lexicographic authorities as insulating materials, and, in particular, electrically insulating materials.” Pl.’s Br. 9.

Defendant’s interpretation, in contrast, is that the mere presence of a material that is regarded as an insulator in some applications does not suffice for classification under heading 8547, HTSUS unless the interior coating imparts, in the context of electrical equipment and the intended use, an insulating characteristic to the conduit to which it is applied. For the reasons discussed below, the court agrees.

Contrary to plaintiff’s argument, the court does not view the phrase “electrical conduit tubing . . . of base metal lined with insulating material” as free of ambiguity. The merchandise at issue here presents the very question that makes the heading term ambiguous. That question involves the function of the lining material in relation to the intended purpose and use of the conduit to which it is applied: must the lining effectively “insulate” the wire (or wires), once installed, from the inner surface of the steel conduit, or is it sufficient that it perform some other function?

The Explanatory Notes to Harmonized System headings 73.06 and 85.47 provide an answer to this question. They draw a distinction between electrical conduit tubing



that is “insulated” and electrical conduit tubing that is “uninsulated.” EN 73.06 instructs that excluded from HS heading 73.06 is “[i]nsulated electrical conduit tubing (heading 85.47).” In a parallel reference, EN 85.47 states that uninsulated electrical conduit tubing is excluded from HS heading 85.47 and instead is to be classified within section XV of the HS nomenclature. EN 85.47(B) (“This group covers the metal tubing used in permanent electrical installations (e.g. house wiring) as insulation and protection for the wires, **provided it has an interior lining of insulating material.** Uninsulated metal tubing, often used for the same purpose, is excluded (Section XV).”). In this way, the two Explanatory Notes draw a distinction between two classes of goods, i.e., insulated and uninsulated electrical conduit tubing.

The materials the parties have provided in support of their respective summary judgment motions do not describe the subject conduit, when offered for sale in commerce, as “insulated electrical conduit” or “insulated electrical conduit tubing.” Moreover, the uncontested facts are inconsistent with a finding that the coating “insulates” the interior wire so as to impede the transfer of electrical current or heat when the conduit is used for its intended purpose. The parties agree that the coating inside the subject conduit provides some measurable resistance (or “resistivity”) to the flow of electric current when compared to the same pipe when uncoated, and the evidence they would introduce demonstrates that fact. Nevertheless, the uncontested facts also demonstrate that the degree of resistivity is not significant in relation to the

intended use of the conduit. They agree, based on the statements of prospective witnesses, that while the coating provides some electrical resistivity, it does not do so in a way that would qualify the conduit as an insulator. *See* Oral Argument at 2:14:30.

Plaintiff's witness measured the resistivity of the coating inside the conduit to be between 120 milliohms and 1.2 ohms, depending on the testing method, and defendant's witness measured the resistivity as much less than that.<sup>5</sup> Even if the results obtained by plaintiff's witness, rather than defendant's, are taken as definitive, they would not demonstrate that the conduit significantly would impede the flow of electrical current in the type of wiring circuits that would be found in or around residential or commercial buildings. Nor could it plausibly be contended that the coating, which is extremely thin (10 to 60 microns), provides meaningful protection from overheated wiring in such circuits.

Notably, plaintiff does not contend that the coating provides significant protection from current flow or heat, and the brochure described above, Def.'s Br. Ex. 6,

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<sup>5</sup> Using a two-point test, plaintiff's witness measured 0.2 ohms of resistivity on uncoated pipe and between 0.7 and 1.2 ohms of resistivity on the coated pipe. Mem. in Supp. of Pl.'s Mot. for Summary J. Ex. IV, at 128 (June 3, 2022) (Deposition of Dr. Joshua E. Jackson), ECF No. 43. Using a four-point test, plaintiff's witness measured the resistivity of the uncoated pipe to be 2.5 milliohms and the coated pipe to be 120 milliohms. *Id.* at 129. Defendant's witness measured the resistivity of the lining to be between 3.419 and 14.043 milliohms. Mem. of Law in Resp. to Pl.'s Mot. for Summary J. and in Supp. of the Government's Cross-Mot. for Summary J. 27 (Aug. 11, 2022), ECF No. 48 ("Def.'s Br.") (citing Expert Witness Report of Dr. Sakis [Athanasios] Meliopoulos (Oct. 20, 2021), Def.'s Br. Ex. 5, at 21).

does not make any such claims. According to plaintiff's theory of this case, however, that does not matter: all that is needed is a coating with a substance that has general applications as an insulator.

The court interprets heading 8547, HTSUS in a common and commercial context to describe electrical conduit that performs an insulating function necessary or desirable for electrical wiring in applications for which the conduit is designed and for which it is marketed in commerce. "Absent contrary legislative intent, HTSUS terms are to be construed according to their common and commercial meanings." *La Crosse Tech.*, 723 F.3d at 1358 (quoting *Carl Zeiss, Inc.*, 195 F.3d at 1379). A reading of the word "insulating" in conjunction with the term "*electrical conduit*," in a common and commercial sense, indicates that the insulating layer must function in a way that relates to the "electrical conduit" function, i.e., it must impede electrical current or isolate the heat from the wire from the inside surface of the steel conduit. The court is not convinced that the term "electrical conduit . . . of base metal lined with an insulating material" describes electrical conduit that cannot insulate the base metal, to any significant degree, from the current or heat in the wire it surrounds.

The Explanatory Note for HS heading 85.47 provides additional insight, stating as follows:

The tubing of this group consists either of spiralled metal strip wound on to an interior tube of insulating material, or of rigid metal tubing (usually iron or steel) coated or lined on the inside with insulating material. *The insulating material may be special electrically insulating varnish,*

*paper or paperboard, rubber, plastics, etc. Metal tubing simply coated with varnish to prevent corrosion is excluded (Section XV).*

EN 85.47(B) (emphasis added). The EN describes examples of various materials that are electrically insulating and may be used to line the conduit. While the term “may be” is somewhat imprecise, the connotation is of a non-exhaustive list of electrically-insulating materials that may be used as lining for the conduit. Moreover, plaintiff’s broader reading of the term “insulate” as having a “connotation of providing a protective layer between an underlying article and something harmful,” Pl.’s Br. 19, is at odds with the example of a coating of varnish that is applied merely to protect the metal from corrosion by insulating it from exposure to oxygen in the air. The distinction drawn by EN 85.47 indicates that electrical conduit that is not identified in commerce as insulated conduit, even though advertised as having a coating that smooths the interior surface to facilitate the pulling of wire through the conduit, is not properly classified under the heading.

In summary, the uncontested facts show that the conduit is not of a type that could insulate the base metal, to any significant degree, from the electrical current or heat in the wire it surrounds. Therefore, these facts demonstrate that the subject merchandise is not “electrical conduit . . . of base metal lined with an insulating material” within the meaning of that term as used in the article description for heading

8547, HTSUS. The subject merchandise is instead described by the terms of heading 7306 (“Other tubes, pipes, and hollow profiles . . . of iron or steel”).<sup>6</sup>

### **G. Application of GRI 6, HTSUS to Determine the Correct Subheading**

Within heading 7306, HTSUS, six-digit subheading 7306.30, HTSUS includes welded steel pipe and tube of circular cross section other than goods suitable for use in oil or gas pipelines or for use in drilling for oil and gas. This subheading describes the imported conduit.

Within the six-digit subheading, eight-digit subheading 7306.30.10, HTSUS includes welded steel pipe and tube of circular cross section “[h]aving a wall thickness of less than 1.65 mm” while subheading 7306.30.50 (“Other . . .”) includes welded steel pipe and tube of circular cross section “[h]aving a wall thickness of 1.65 mm or more.” The subject merchandise falls within these two eight-digit subheadings, depending on the wall thickness of the individual product.<sup>7</sup>

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<sup>6</sup> The term “Other . . .” refers to steel pipe and tube not described in the immediately preceding headings of chapter 73, HTSUS. Heading 7304, HTSUS applies to seamless steel tubes and pipes, and heading 7305, HTSUS applies to steel tubes and pipes of circular cross section, other than seamless tubes and pipes, that are of an external diameter exceeding 406.4 millimeters.

<sup>7</sup> Both eight-digit subheadings are free of general (column 1) duty but at the time of importation were subject to the duty of 25% *ad valorem* under U.S. note 16 to subchapter III of chapter 99 and subheading 9903.80.01, HTSUS. The ten-digit statistical subheadings are of no significance to the tariff treatment.

### H. Plaintiff's Motion in Limine

Plaintiff argues that defendant's designated expert witness, Dr. Athanasios Meliopoulos, an electrical engineer, does not have the necessary professional qualifications to testify in the field of chemistry as an expert on what constitutes an "insulating material." Mot. in. Limine 3 ("We submit that Dr. Meliopoulos is woefully incompetent to render an opinion on the chemical composition of the lining and whether it is insulating material."). The expert witness report of Dr. Meliopoulos opines that the material used to coat the inside of the subject conduit would be classified as a "semiconductor" rather than as an insulator. Def.'s Br. Ex. 5, at 8 ("[T]he coating material is a semiconductor."). Plaintiff moves that the court order "that the opinion testimony of Dr. Athanasios Meliopoulos on what constitutes 'insulating materials' is inadmissible under Rule 702 of the Federal Rules of Evidence and is hereby excluded." Mot. in. Limine Proposed Order.

The court agrees that Dr. Meliopoulos has not presented credentials as a chemist or chemical engineer. Had this case gone to trial, the court accordingly would have excluded his testimony to the effect that the material applied as a coating to the conduit is classified as a "semiconductor" rather than an insulator or insulating material. Nevertheless, the court rules that this case presents no genuine dispute as to any material fact and considers the issue of whether the coating material may be described generally as an "insulator" or "insulating material" not to be an issue of material fact in

this case. Therefore, the court sees no need to resolve, as a disputed fact in this litigation, whether the coating material would be classified for chemical purposes as an “insulator” or instead classified as a “semiconductor.”

The uncontested fact is that the coating material, *in the form in which it exists on the inside of the subject conduit*, has a measurable electrically-insulating property, as discussed previously in this Opinion. The parties also agree, as discussed previously in this Opinion, that while the coating provides some electrical resistivity, it does not do so in a way that would qualify the *conduit* as an insulator. While the court must make its decision on defendant’s motion for summary judgment on the basis of evidence that would be admissible, Dr. Meliopoulos’s opinion that the material is a “semiconductor” is irrelevant to the court’s summary judgment analysis and is not used to reach the decision in this case.

For these reasons, plaintiff’s motion in limine will be denied as moot.

### III. CONCLUSION

For the reasons stated above, the court concludes that there is no genuine dispute as to any material fact and rules that plaintiff has not demonstrated that “the government’s classification is incorrect.” *Jarvis Clark*, 733 F.2d at 876. Therefore, the defendant is entitled to judgment as a matter of law. Accordingly, the court will deny

Court No. 20-00074

Page 21

plaintiff's motion for summary judgment, grant defendant's cross-motion, and enter summary judgment in favor of defendant.

/s/ Timothy C. Stanceu

Timothy C. Stanceu

Judge

Dated: March 13, 2023

New York, New York



FORM 19. Certificate of Compliance with Type-Volume Limitations

Form 19  
July 2020

**UNITED STATES COURT OF APPEALS  
FOR THE FEDERAL CIRCUIT**

**CERTIFICATE OF COMPLIANCE WITH TYPE-VOLUME LIMITATIONS**

**Case Number:** 23-1648

**Short Case Caption:** Shamrock Building Materials, Inc. v. US

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- ☒ the filing has been prepared using a proportionally-spaced typeface and includes 12,280 words.
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Date: 06/05/2023

Signature: /s/ R. Will Planert

Name: R. Will Planert

FORM 30. Certificate of Service

Form 30  
July 2020**UNITED STATES COURT OF APPEALS  
FOR THE FEDERAL CIRCUIT****CERTIFICATE OF SERVICE****Case Number** 23-1648**Short Case Caption** Shamrock Building Materials, Inc. v. US

**NOTE:** Proof of service is only required when the rules specify that service must be accomplished outside the court's electronic filing system. See Fed. R. App. P. 25(d); Fed. Cir. R. 25(e). Attach additional pages as needed.

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Marcella Powell	U.S. Department of Justice, International Trade Field Office, 26 Federal Plaza, Suite 346, New York, NY 10278, marcella.powell@usdoj.gov
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☒ Additional pages attached.Date: 06/05/2023Signature: /s/ R. Will PlanertName: R. Will Planert